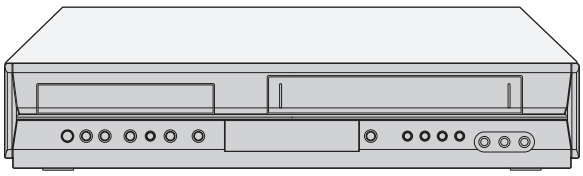
JVC

SERVICE MANUAL

DVD PLAYER & VIDEO CASSETTE RECORDER

HR-XV28SEF,HR-XV28SEK, HR-XV28SER,HR-XV28SEU, HR-XV28SEY,HR-XV28SEZ



HR-XV28SEF,HR-XV28SEK,HR-XV28SER,HR-XV28SEU,HR-XV28SEY,HR-XV28SEZ [D5PV0]

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No.YD068
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SPECIFICATION

	HR-XV28SEF	HR-XV28SEK	HR-XV28SER/SEU/SEY/SEZ
General			
Power requirement	AC 200V - 240V, 50 Hz		
Power consumption	17 W		
Dimensions (approx.)	430 × 78.5 × 265 mm (w/h/d)		
Mass (approx.)	4.2 kg		
Operating temperature	5°C to 35°C (41°F to 95°F)		
Operating humidity	5 % to 90 %		
Timer	24 hours display type		
RF Modulator	-	UHF 22-68 (Adjustable)	
System			
Laser	Semiconductor laser, wavelength 650 nm		
Video Head system	Double azimuth 6 heads, helical scanning.		
Signal system	PAL		
Frequency response	DVD (PCM 96 kHz): 8 Hz to 44 kHz, DVD (PCM 48 kHz): 8 Hz to 22 kHz, CD: 8 Hz to 20 kHz		
Signal-to-noise ratio	More than 100 dB (ANALOG OUT connectors only)		
Harmonic distortion	Less than 0.008%		
Dynamic range	More than 100 dB (DVD), More than 95 dB (CD)		
Inputs (VCR)			
Audio	-6.0 dBm, more than 10 kΩ (SCART), -6.0 dBm, more than 47 kΩ (RCA)		
Video	1.0 V (p-p), 75 Ω, unbalanced (SCART/RCA)		
Outputs (DVD)			
VIDEO OUT	1 Vp-p 75 Ω, sync negative		
Audio output (digital audio)	0.5 V (p-p), 75 Ω, RCA jack × 1		
Audio output (analog audio)	2.0 Vrms (1 kHz, 0 dB), 600 Ω, RCA jack (L, R) x 1/SCART (TO TV)		
Outputs (VCR/DVD)			
Audio	-6.0 dBm, less than 1 kΩ (SCART)		
Video	1.0 V (p-p), 75 Ω, unbalanced (SCART)		

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- Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.
- DTS and DTS Digital Out are trademarks of Digital Theater Systems, Inc.
- SHOWVIEW is a trademark of Gemstar Development Corporation. The SHOWVIEW system is manufactured under license from Gemstar Development Corporation.(EF/ER/EU/EY/EZ models)
- VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.(EK model)

SECTION 1
PRECAUTION

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold.However,in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

(1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product.When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

(2) Parts identified by the ⚠symbol and shaded ( ) parts are critical for safety.
Replace only with specified part numbers.

NOTE :

Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

(3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

(4) Use specified internal wiring. Note especially:
- Wires covered with PVC tubing
- Double insulated wires
- High voltage leads

(5) Use specified insulating materials for hazardous live parts. Note especially:
- Insulation Tape
- PVC tubing
- Spacers
- Insulation sheets for transistors
- Barrier

(6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

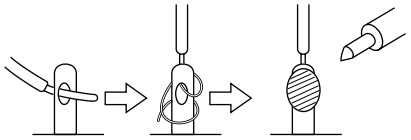


Fig.1-1-1

(7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

(8) Check that replaced wires do not contact sharp edged or pointed parts.

(9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

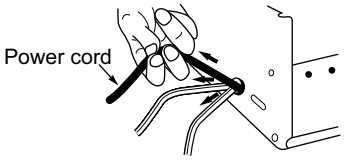


Fig.1-1-2

(10) Also check areas surrounding repaired locations.

(11) Products using cathode ray tubes (CRTs)In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

(12) Crimp type wire connectorIn such cases as when replacing the power transformer in sets where the connections between the power cord and power trans former primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
- **Connector part number** :E03830-001
- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- **Replacement procedure**

a) Remove the old connector by cutting the wires at a point close to the connector.Important : Do not reuse a connector (discard it).

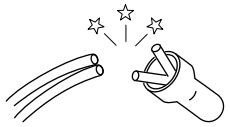


Fig.1-1-3

b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

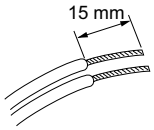


Fig.1-1-4

c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

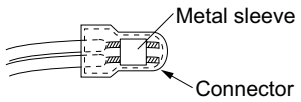


Fig.1-1-5

d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

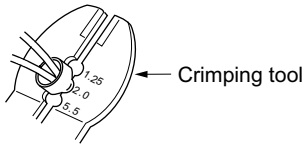


Fig.1-1-6

e) Check the four points noted in Fig.1-1-7.

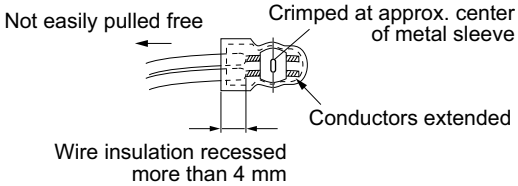

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).See table 1 below.

(2) Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

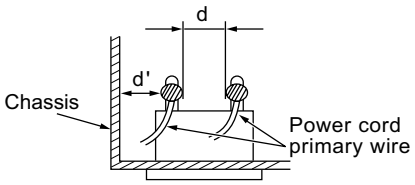


Fig.1-1-8

(4) Leakage current test
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

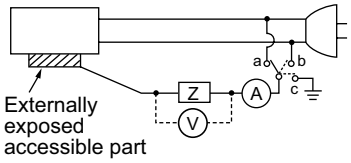
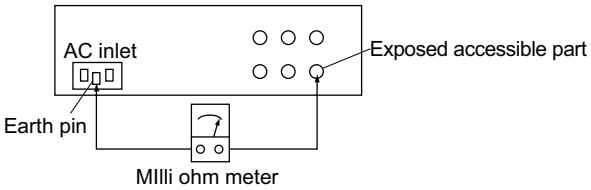


Fig.1-1-9

(5) Grounding (Class 1 model only)
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦R≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Fig.1-1-12

NOTE :
These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

1.2 Preventing static electricity

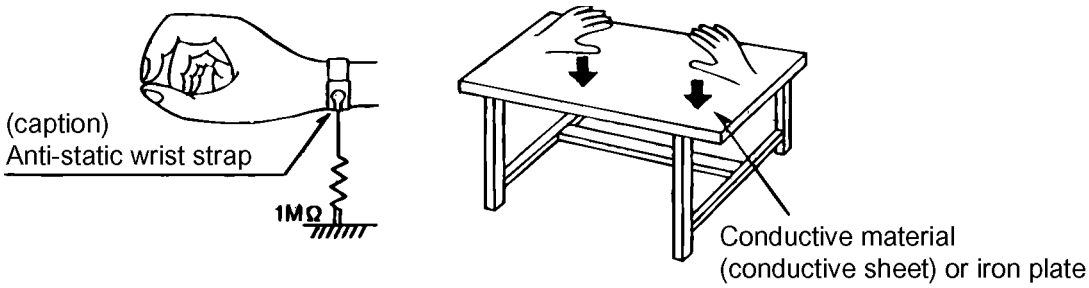
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.2.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players.
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench
Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself
Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup
- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition.
(Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 DIFFERENT TABLE OF FEATURE

The following table indicates main different points between models HR-XV28SEF, HR-XV28SEK, HR-XV28SER, HR-XV28SEU and HR-XV28SEY/EZ.

MODEL NAME	HR-XV28SEF	HR-XV28SEK	HR-XV28SER
SCART CABLE	PROVIDED	←	OPTIONAL
BROADCASTING SYSTEM	PAL B/G, SECAM L	PAL I, I/I, B/G, SECAM D/K, K1	←
RF OUT CH/RF OUT SYSTEM [INITIAL]	NOT USED	22-68CH,[36CH]/I	22-68CH,[36CH]/K
OSD LANGUAGES	ENGLISH/GERMANY/FRENCH/ ITALIAN/SPANISH/DUTCH	ENGLISH/GERMANY/ITALIAN/ SPANISH/GREEK/PORTU-GUESE	ENGLISH/RUSSIAN
REGIONAL CODE	REGIONAL CODE : 2	←	REGIONAL CODE : 5

MODEL NAME	HR-XV28SEU	HR-XV28SEY/EZ
SCART CABLE	OPTIONAL	←
BROADCASTING SYSTEM	PAL I, I/I, B/G, SECAM D/K, K1	←
RF OUT CH/RF OUT SYSTEM [INITIAL]	22-68CH,[36CH]/G	←
OSD LANGUAGES	ENGLISH/GERMANY/ITALIAN/ SPANISH/GREEK/PORTU-GUESE	ENGLISH/POLISH/CZECH/ HUNGARIAN/SWEDISH/GER-MANY
REGIONAL CODE	REGIONAL CODE : 2	←

Note:
Mark ← is same as left.

2.2 SERVICE INFORMATION FOR EEPROM IC SETTING(VCR)

EEPROM option code No. setting

NAME	HEX	BINARY
OPT0	00	00000000
OPT1	00	00000000
OPT2	00	00000000
OPT3	00	00000000
OPT4	00	00000000
OPT5	00	00000000

12/26 - 00 V00 ← μ-COM Ver.
ID : LG
VERSION : 05 ROM
DATE : 02.17.05 Correction Ver.

MODEL	NAME	HEX	BINARY
HR-XV28SEU	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	60	00000000
	OPT3	47	00000000
	OPT4	03	00000000
	OPT5	0B	00000000
HR-XV28SEK	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	21	00000000
	OPT3	87	00000000
	OPT4	0D	00000000
	OPT5	0B	00000000
HR-XV28SEZ	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	63	00000000
	OPT3	47	00000000
	OPT4	0D	00000000
	OPT5	0B	00000000
HR-XV28SEY	OPT0	00	00000000
	OPT1	54	00000000
	OPT2	63	00000000
	OPT3	47	00000000
	OPT4	0B	00000000
	OPT5	0B	00000000
HR-XV28SER	OPT0	09	00000000
	OPT1	54	00000000
	OPT2	A3	00000000
	OPT3	47	00000000
	OPT4	0D	00000000
	OPT5	0B	00000000
HR-XV28SEF	OPT0	00	00000000
	OPT1	5C	00000000
	OPT2	E8	00000000
	OPT3	47	00000000
	OPT4	01	00000000
	OPT5	0B	00000000

WR : OK I : EXIT MOVE : ◄ ►
EDIT : ▲▼

EEPROM option code No. setting procedure

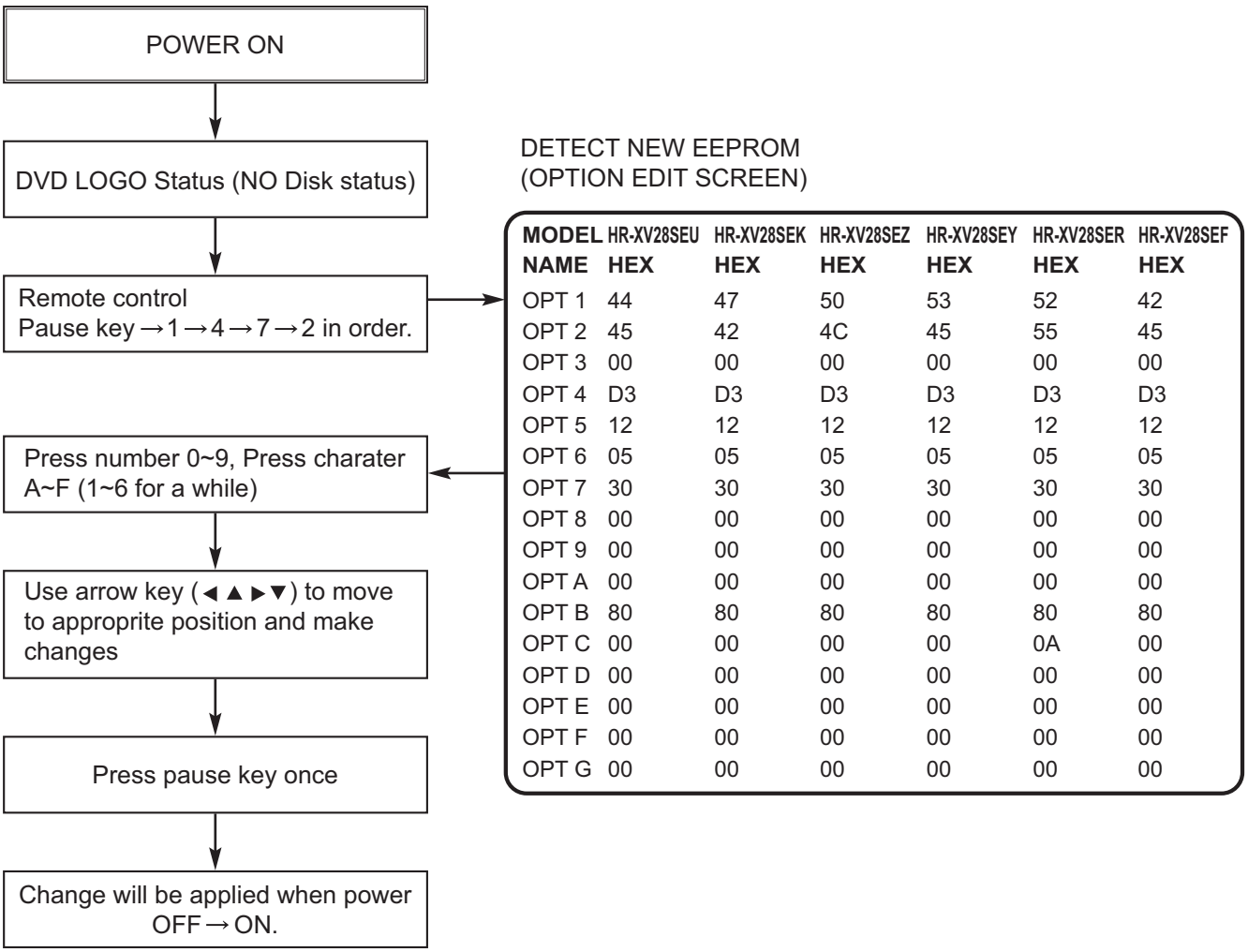
1. DETECT NEW EEPROM (OPTION EDIT SCREEN)
   - Eeprom EDIT screen automatically appears if replacing Eeprom.
   - Setup option data using the cursor Up/Down key of a remote control.
     (Setup upon BOM depending on OPT0~OPT5 model)
   - Since an initial remote control is set to LG for LG model, appropriately set optiona data using the cursor Up/Down key.

2. EEPROM WRITED AND EEPROM INITIAL
   - Writes data on EEPROM by using REMOCON "OK" + FRONT PLAY KEY FOR MORE THAN 5 SECONDS.

3. PG ADJUST
   1) Payback the SP standard tape
   2) Press the "OK" key on the Remote controller and the "PLAY" key on the Front Panel the same time, then it goes in to Tracking initial mode.
   3) Repeat the above step(No.2), then it finishes the PG adjusting automatically.
   4) Stop the playback, then it goes out to PG adjusting mode after mony the PG data.

4. BUYER SELECTION
   - Font ejection key + open/close key for more than 5 seconds.
   - Option code is displayed in TV
   - First byte of OPTO is changed whenever front eject key + open/close key.
   - JVC remote conroller No.0.

2.3 SERVICE INFORMATION FOR EEPROM (DVD)


POWER ON
DVD LOGO Status (NO Disk status)
Remote control
Pause key →1 →4 →7 →2 in order.
Press number 0~9, Press charater
A~F (1~6 for a while)
Use arrow key (◄ ▲ ►▼) to move
to approprite position and make
changes
Press pause key once
Change will be applied when power
OFF → ON.
DETECT NEW EEPROM
(OPTION EDIT SCREEN)

MODEL	HR-XV28SEU	HR-XV28SEK	HR-XV28SEZ	HR-XV28SEY	HR-XV28SER	HR-XV28SEF
NAME	HEX	HEX	HEX	HEX	HEX	HEX
OPT 1	44	47	50	53	52	42
OPT 2	45	42	4C	45	55	45
OPT 3	00	00	00	00	00	00
OPT 4	D3	D3	D3	D3	D3	D3
OPT 5	12	12	12	12	12	12
OPT 6	05	05	05	05	05	05
OPT 7	30	30	30	30	30	30
OPT 8	00	00	00	00	00	00
OPT 9	00	00	00	00	00	00
OPT A	00	00	00	00	00	00
OPT B	80	80	80	80	80	80
OPT C	00	00	00	00	0A	00
OPT D	00	00	00	00	00	00
OPT E	00	00	00	00	00	00
OPT F	00	00	00	00	00	00
OPT G	00	00	00	00	00	00

*** OPTION**

- NTSC model does not have VCR option and use DVD option B~F as VCR option. (only DVD exist)
- PAL model has another separate VCR option. (Both VCR and DVD exist)

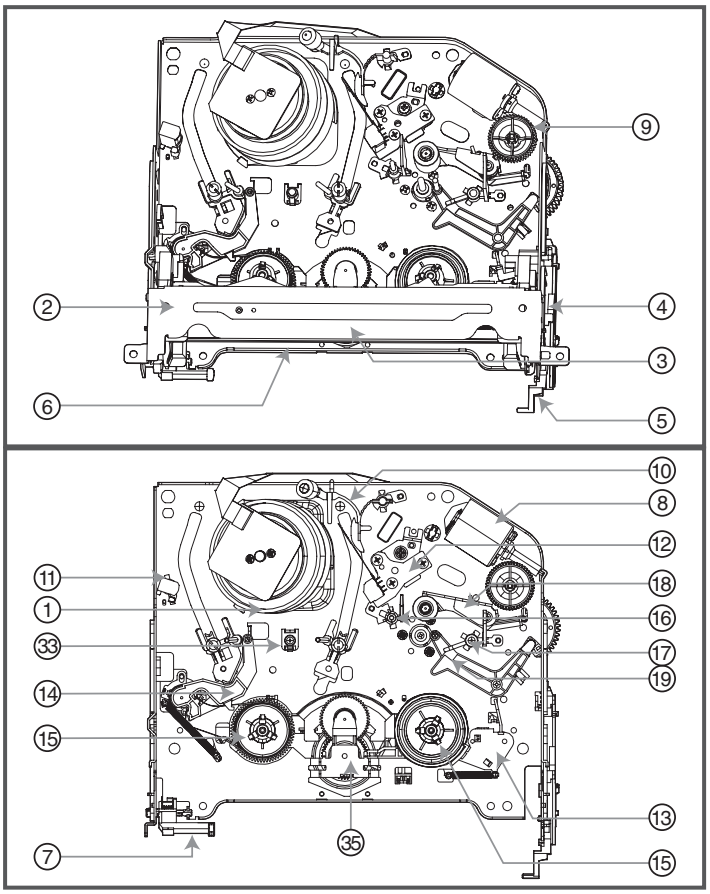
SECTION 3
DISASSEMBLY

This service manual does not describe DISASSEMBLY.

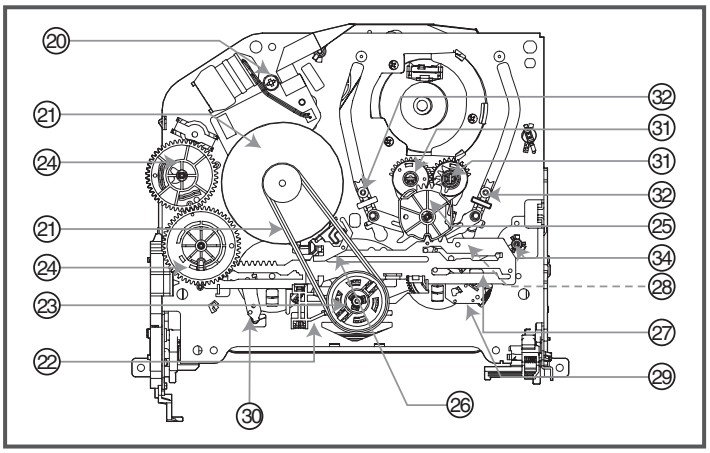
SECTION 4
ADJUSTMENT

4.1 POSITION DRAWING OF DECK MECHANISM PARTS (VCR)

· Top View



· Bottom View



NOTE : Assembly order is a reverse of disassembly order.

(1) For assembly, check the assembly mode is accurate.
(2) Parts firstly disassembled indicate parts firstly disassembled in disassembly of related parts.

Order Of Dis-assembled / Parts firstly Disassembled		Part	Fixing Type	Ref. Draw-ings	Posi tion
	1	Drum Assembly	3 screws	A-1	T
	2	Plate Top	2 hooks	A-2	T
2	3	Holder Assembly CST	6 chasses	A-2	T
2,3	4	Gear Assembly Rack F/L	1 hook	A-2	T
2,3,4	5	Opener Door	Chassis Hole	A-2	T
2,3,4,5	6	Arm Assembly F/L	Chassis Hole	A-2	T
	7	Lever Assembly S/W	Chassis Hole, 1 hook	A-2	T
	8	Motor Assembly L/D	1 screw	A-3	T
	9	Gear Wheel	2 hooks	A-3	T
	10	Arm Assembly Cleaner	Chassis Embossing	A-3	T
	11	Head F/E	Chassis Embossing	A-3	T
	12	Base Assembly A/C Head	1 screw	A-3	T
2,3	13	Brake Assembly T	1 hook	A-4	T
2,3	14	Arm Assembly Tension	1 hook	A-4	T
2,3,13,14	15	Reel S / Reel T	Shaft	A-4	T
	16	Base Assembly P4	Chassis Embossing	A-5	T
	17	Opener Lid	Chassis Embossing	A-5	T
17	18	Arm Assembly Pinch	Shaft	A-5	T
17	19	Arm T/up	1 hook	A-5	T
	20	Supporter, capstan	Chassis Hole	A-6	B
17,18	21	Belt Capstan/Motor Capstan	3 screws	A-6	B
	22	Lever F/R	Tab	A-6	B
21,22	23	Clutch Assembly D37	Washer	A-6	B
	24	Gear Drive/Gear Cam	Washer/Hook	A-7	B
	25	Gear Sector	Hook	A-7	B
21	26	Brake Assembly Capstan	Chassis Hole	A-7	B
21,22,23, 24,25,26	27	Plate Slider	Chassis Guide	A-7	B
21,22,23, 24,25,26,27	28	Lever Tension	1 Hook	A-7	B
21,22,23, 24,25,26,27	29	Lever Spring	1 Hook	A-7	B
21,22,23, 24,25,26,27	30	Lever Brake	1 Hook	A-7	B
25	31	Gear Assembly P2/ Gear Assembly P3	Bass	A-8	B
2,3,14, 25,31	32	Base Assembly P2 /Base Assembly P3	6 Chasses	A-8	B
25,31	33	Base Loading	3 Hooks	A-8	B
2,3,14	34	Base Tension	Chassis Embossing	A-9	B
	35	Arm Assembly Idler Jog	Locking Tab	A-9	B

T:Top, B:Bottom

4.2 DISASSEMBLY AND ASSEMBLY OF DECK MECHANISM (VCR)

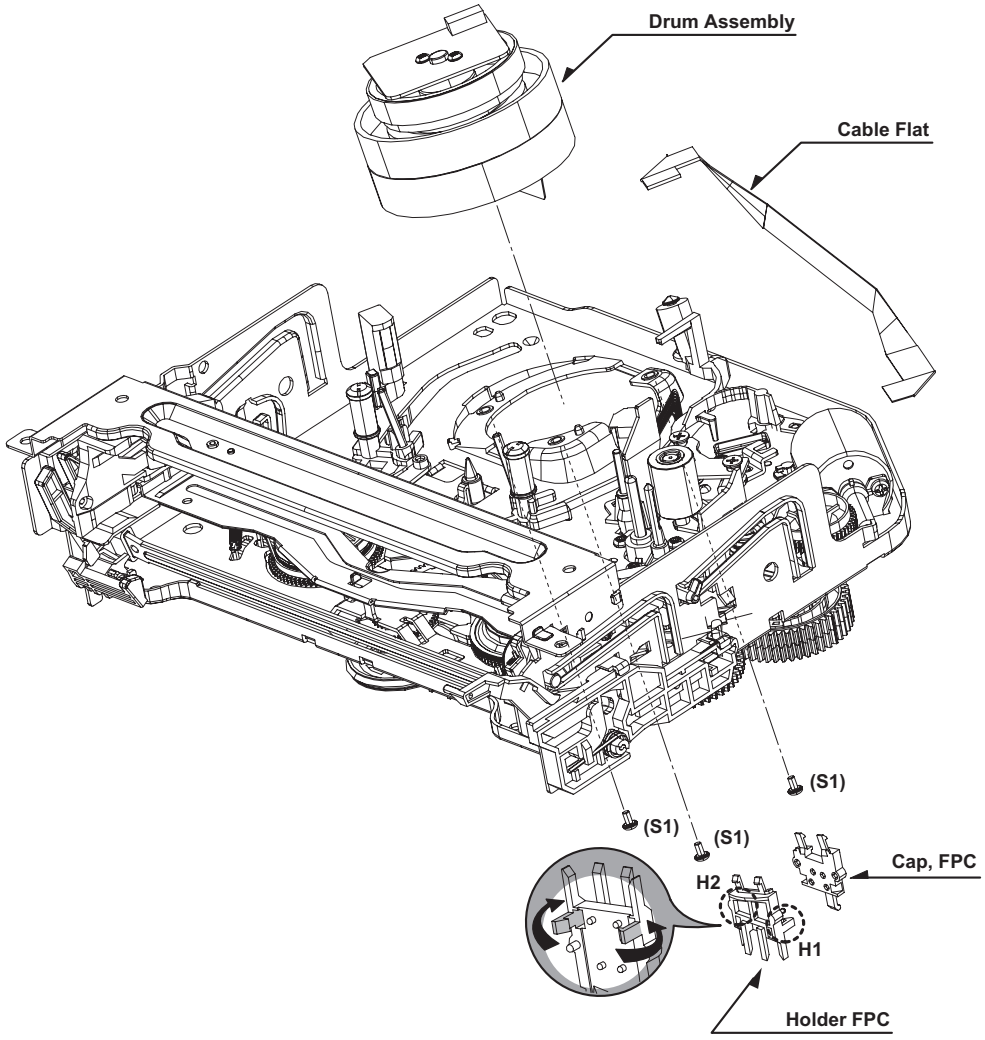
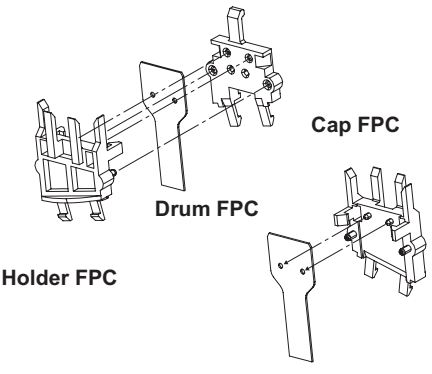


Fig. A-1

1. Disassembly of Drum Assembly (Figure A-1)

1) Separate cable flat from the Drum FPC and the Capstan Motor.
2) Release 3 screws (S1) on the bottom side of the chassis, and separate the drum assembly.
3) Release the hooks (H1, H2) and separate both the holder FPC and the Cap FPC (disassemble if necessary).

Cautions in assembly of FPC



Assembly shape seen in the reverse direction

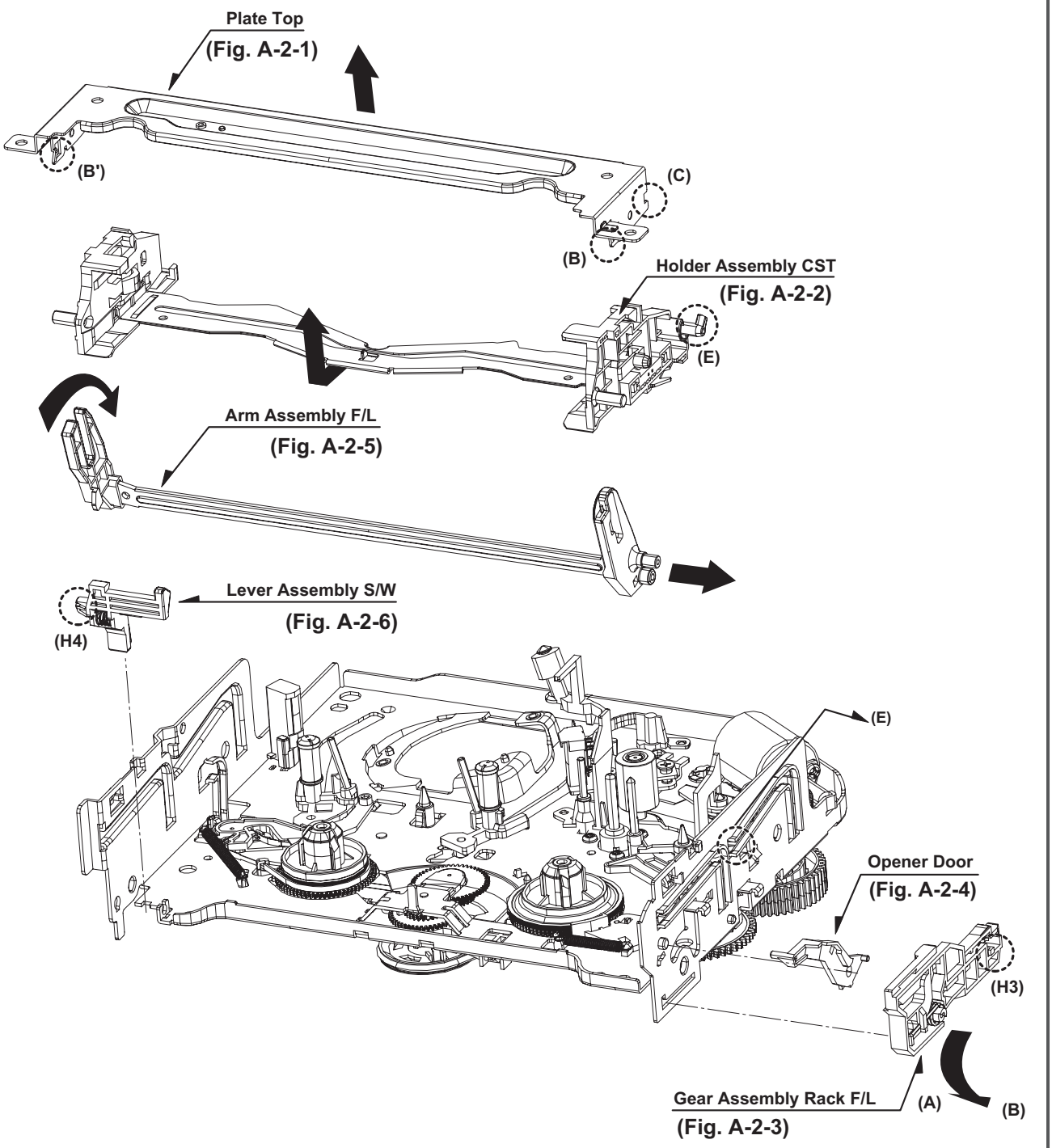


Plate Top
(Fig. A-2-1)
(B')
(C)
(B)
Holder Assembly CST
(Fig. A-2-2)
(E)
Arm Assembly F/L
(Fig. A-2-5)
Lever Assembly S/W
(Fig. A-2-6)
(H4)
(E)
Opener Door
(Fig. A-2-4)
(H3)
Gear Assembly Rack F/L
(Fig. A-2-3)
(A)
(B)

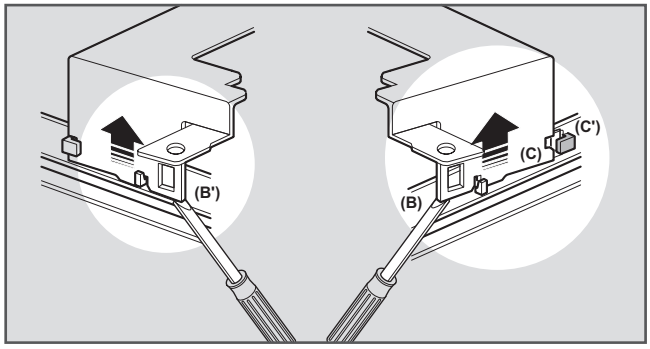
Fig. A-2

2. Disassembly of Plate Top (Fig. A-2-1)

1) Separate the right part while leaning back the (B) part of the plate top toward the arrow direction.
2) Separate the left part while leaning back the (B f) part of the plate top toward the arrow direction.
(Tool used: Tool such as (-) driver, auger, etc with pointed or flat end)

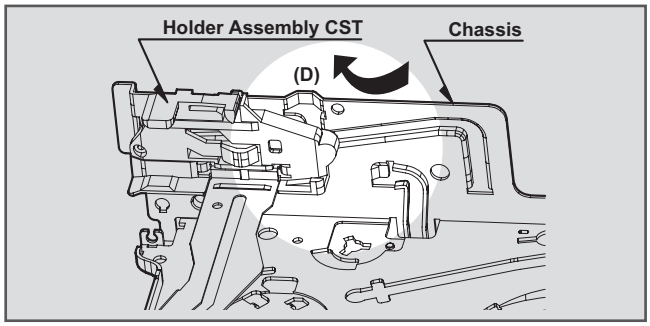
CAUTIONS

Assemble while pressing the (C), (C') part after corresponding them as in drawing.



3. Holder Assembly CST (Fig. A-2-2)

1) Firstly separate the left part from the groove on the (D) part of chassis while moving the holder assembly CST toward the arrow direction.



2) Separate the right part from each groove of chassis

CAUTIONS

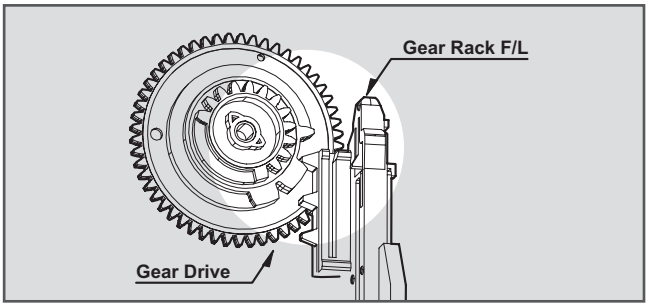
Assemble by inserting the left part after firstly inserting the (E) part of the holder assembly CST into the groove on the (E') part of chassis.

4. Disassembly of Gear Assembly Rack F/L (Fig. A-2-3)

1) Separate the hook (H3) while leaning ahead the hook (3) after moving the gear assembly rack F/L toward the arrow (A) direction.
2) Separate the gear assembly rack F/L toward the arrow (B) direction.

CAUTIONS

For the assembly, correspond the gear part of gear assembly rack F/L to the gear drive.



5. Opener Door (Fig. A-2-4)

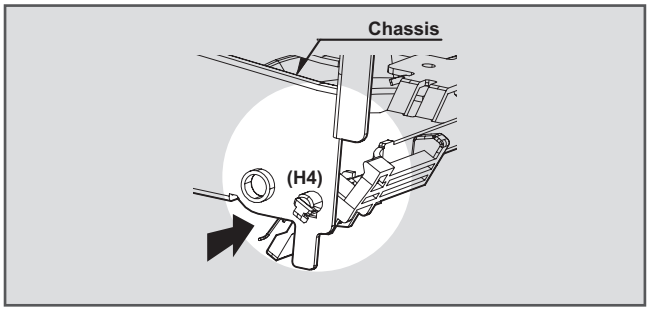
1) Separate the opener door ahead from the guide hole of chassis while turning it clockwise.

6. Arm Assembly F/L (Fig. A-2-5)

1) Firstly separate the left part of the arm assembly F/L from the groove of chassis while pushing the arm assembly F/L toward the arrow direction.
2) Separate the right part from the groove of chassis.).

7. Lever Assembly S/W (Fig. A-2-6)

1) Separate the lever assembly S/W while pushing it toward the arrow direction after removing the hook (4) on the left side of chassis.



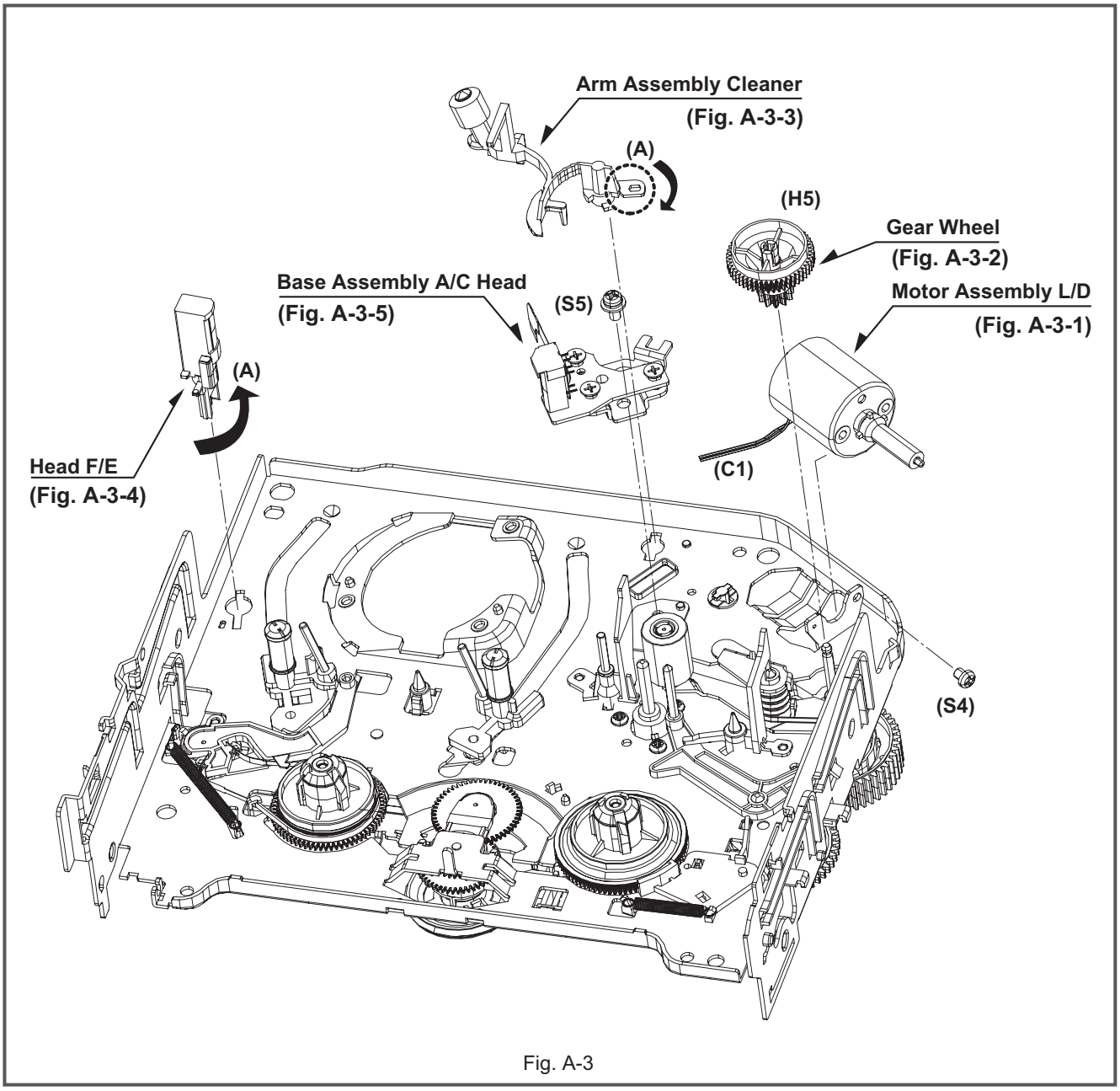


Fig. A-3

8. Motor Assembly L/D (Fig. A-3-1)

1) Take the connector (C1) connected to the Capstan motor PCB out.
2) Remove a screw (S4) of the chassis (S4) and step backward, and disassemble it while holding it up.

9. Gear Wheel (Fig. A-3-2)

1) Release the hook (H5) of the gear wheel and disassemble it upward.

10. Arm Assembly Cleaner (Fig. A-3-3)

1) Separate the (A) part of Fig. A-3-1 from the embossing of chassis, and hold it up while turning it anti-clockwise.

11. Head F/E (Fig. A-3-4)

1) Separate the (A) part of the head F/E from the embossing of chassis, and hold it up while turning it anti-clockwise.

12. Base Assembly A/C Head (Fig. A-3-5)

1) Release a screw (S5) and disassemble while holding it up.

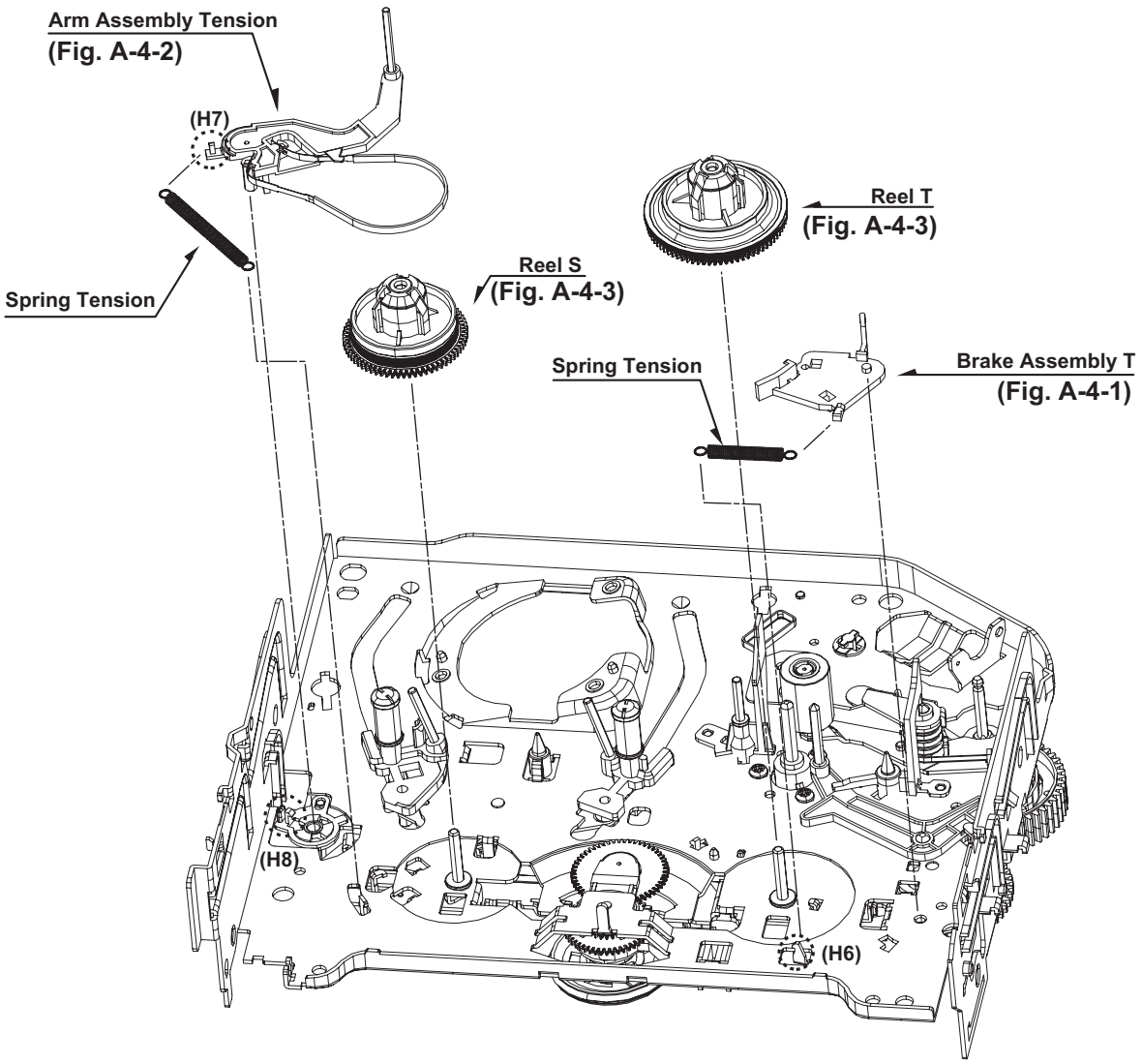


Fig. A-4

13. Brake Assembly T (Fig. A-4-1)

1) Release the spring tension from the lever spring hook (H6).
2) Disassemble the brake assembly T while holding it upward.

14. Arm Assembly Tension (Fig. A-4-2)

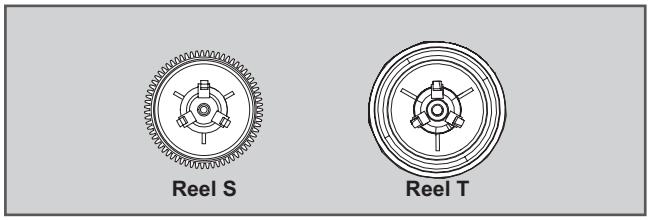
1) Release the spring tension the hook (H7) from the arm assembly tension.
2) After releasing the hook (H8) of the base tension, separate it while holding it up.

CAUTIONS

Spring used for both brake assembly T and arm assembly tension is used (2EA used).

15. Reel S/Reel T (Fig. A-4-3)

1) Disassemble the reel S/ reel T while holding it up (comparison between Reel S and Reel T)



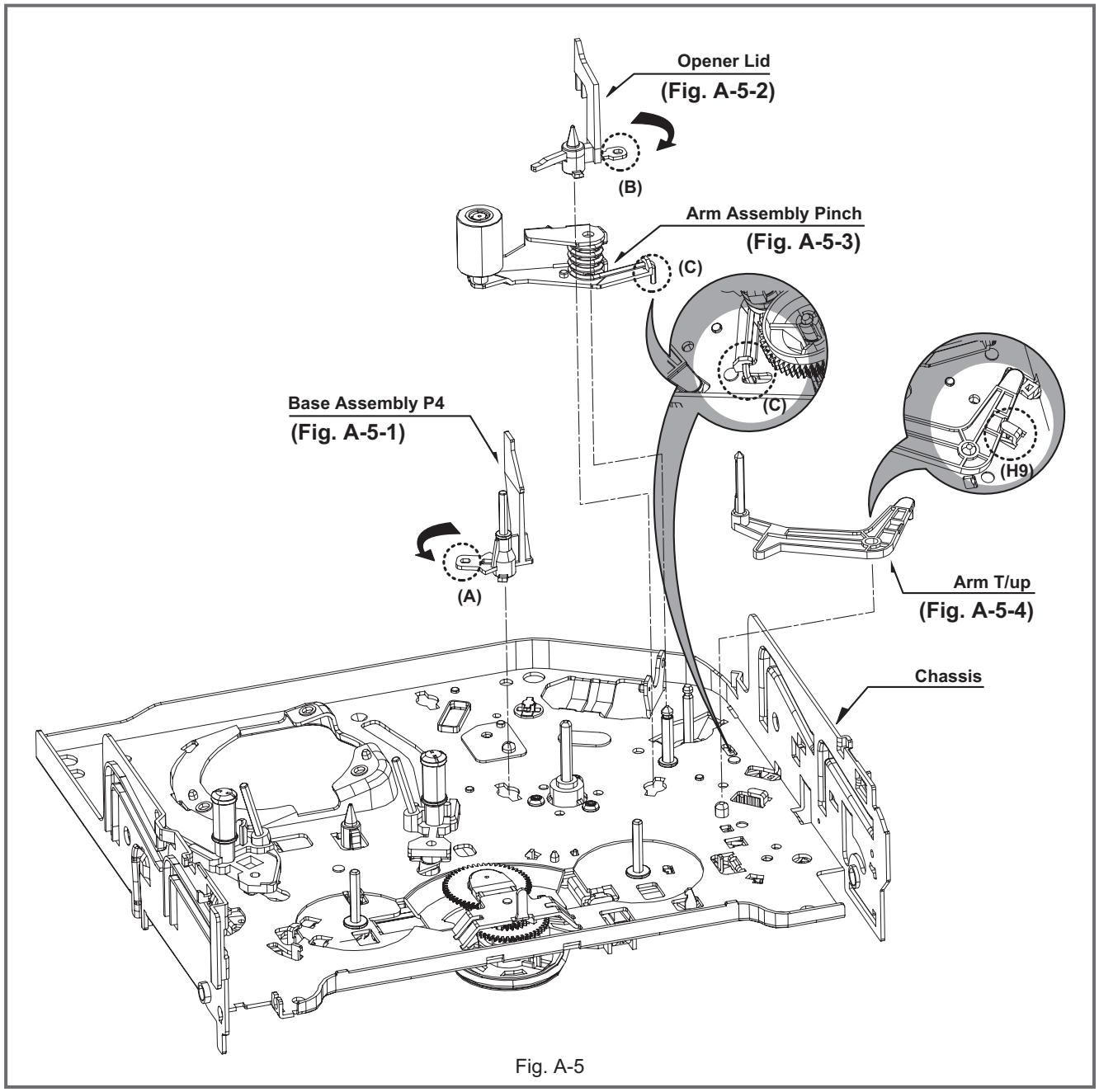


Fig. A-5

16. Base Assembly P4 (Fig. A-5-1)

1) Release the (A) part of the base assembly P4 from the embossing of chassis.
2) Hold the base assembly P4 up while turning it anti-clockwise.

17. Opener Lid (Fig. A-5-2)

1) Release the (B) part of the opener lid from the embossing of chassis.
2) Disassemble the opener lid upward while turning it anticlockwise.

18. Arm Assembly Pinch (Fig. A-5-3)

1) Hold the arm assembly pinch up.

19. Arm T/up (Fig. A-5-4)

1) Turn the arm T/up to release the anchor jaw (H9) part of chassis and then hold it upward.

CAUTIONS

For the assembly, check the (C) part of the arm assembly pinch is assembled as in drawing.

- REVERSE THE MECHANISM.

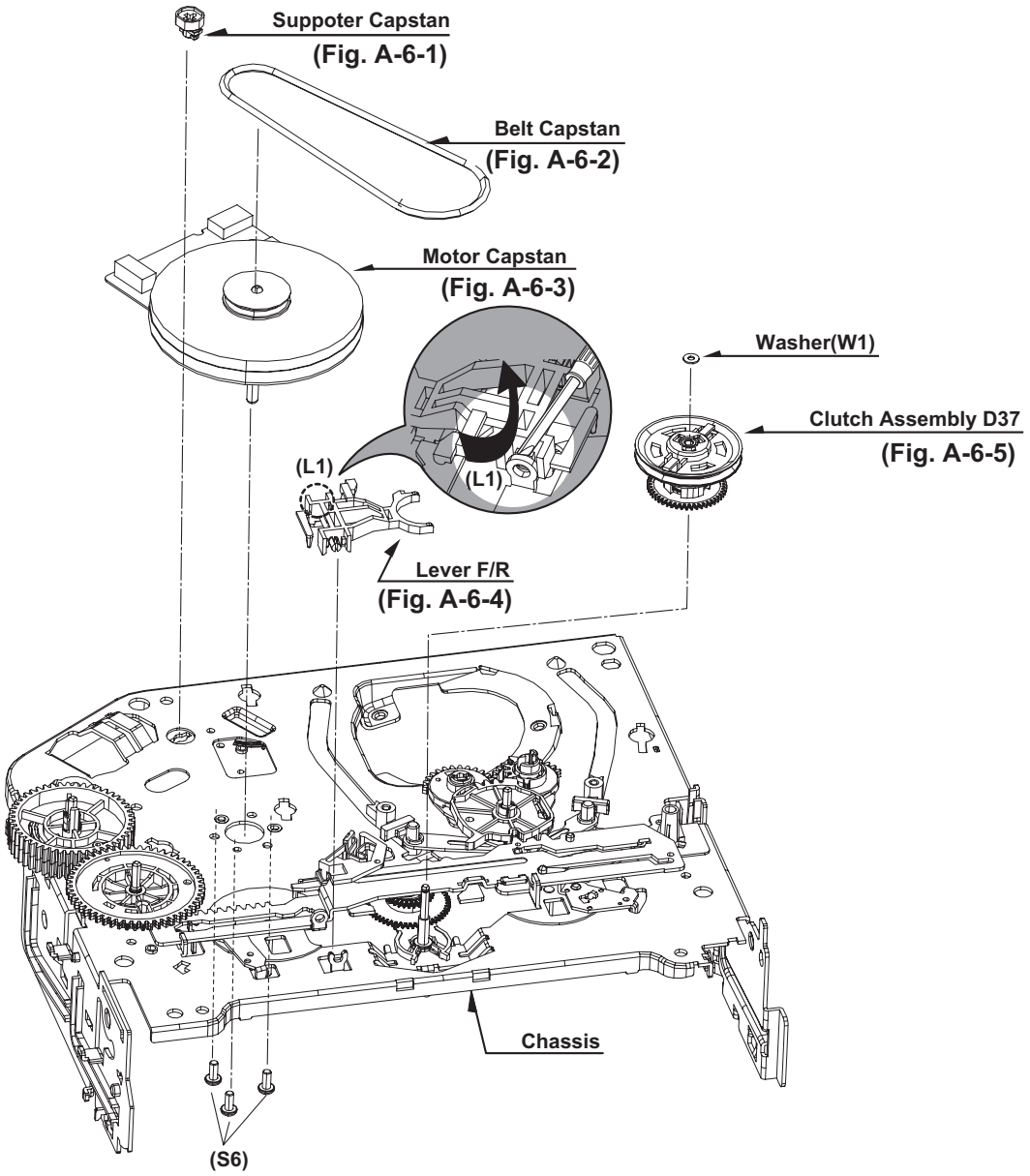


Fig. A-6

20. Supporter, Capstan (Fig. A-6-1)

1) Turn the supporter and Capstan by 90 deg. clockwise with a driver for disassembly.

21. Belt Capstan (Fig. A-6-2) / Motor Capstan (Fig. A-6-3)

1) Separate the belt Capstan.
2) Undo 3 screws (S6) on the bottom side of chassis and disassemble it upward.

22. Lever F/R (Fig. A-6-4)

1) Release the locking tab (L1) and then disassemble it upward.

23. Clutch Assembly D37 (Fig. A-6-5)

1) Remove the washer (W1) and then disassemble it upward.

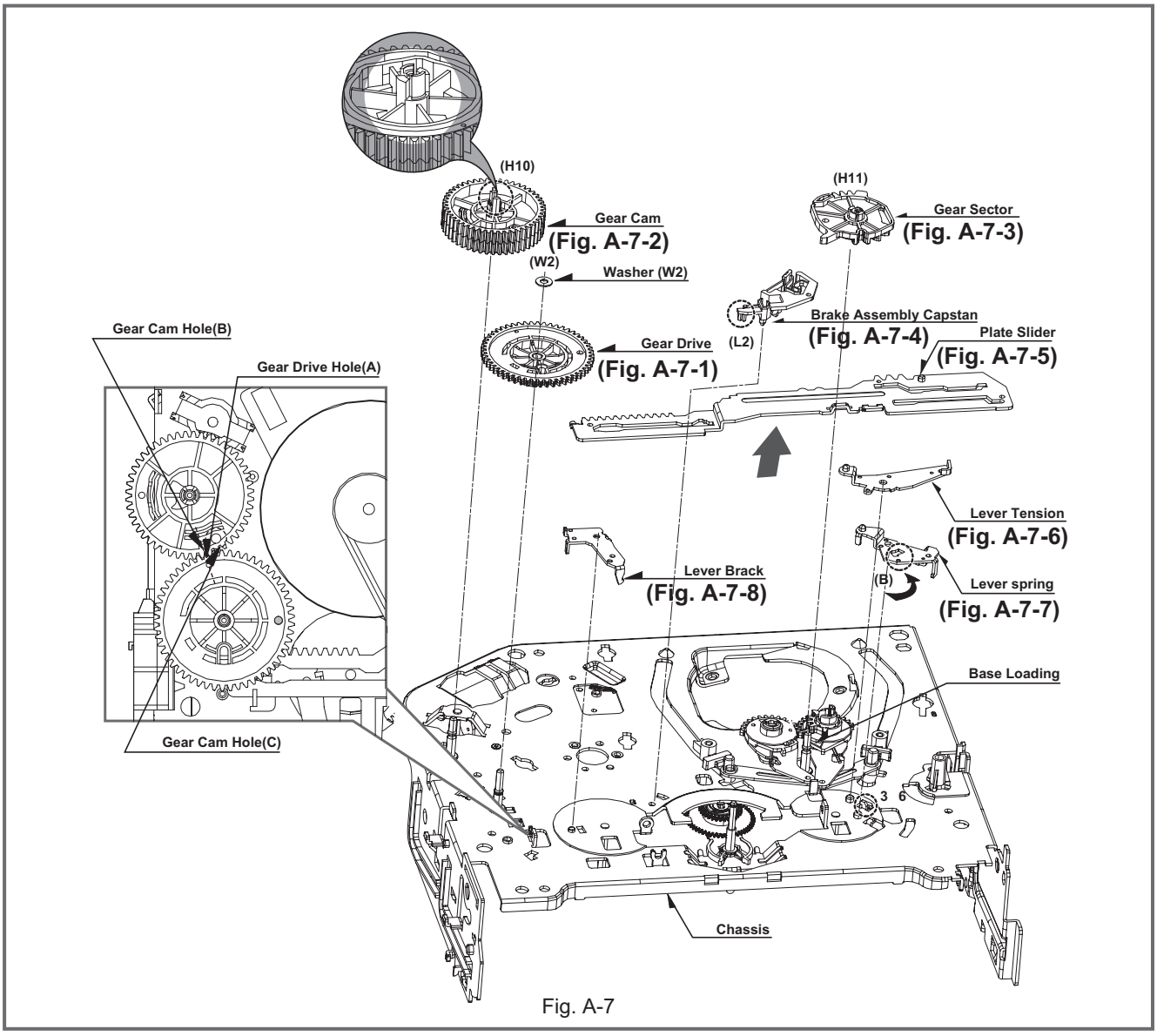


Fig. A-7

24. Gear Drive (Fig. A-7-1)/Gear Cam (Fig. A-7-2)

1) Remove the washer (W2) and then disassemble the gear drive.
2) Release the hook (H10) of the gear cam and then disassemble it upward.

CAUTIONS

For the assembly, adjust both the gear driver hole (A) and the gear cam hole (B) straightly and then correspond the gear cam hole (C) to the chassis hole.

25. Gear Sector (Fig. A-7-3)

1) Release the hook (H11) of the gear sector and then hold the gear sector upward.

26. Brake Assembly Capstan (Fig. A-7-4)

1) Release the locking tab (L2) on the bottom side of the plate slider and then disassemble it upward.

27. Plate Slider (Fig. A-7-5)

1) Disassemble the plate slider while holding it up.

28. Lever Tension (Fig. A-7-6)

1) Release the lever tension from the guide (A) of chassis while turning it anti-clockwise.
2) Disassemble the lever tension while holding it up.

29. Lever Spring (Fig. A-7-7)

1) Release the (B) part of the lever spring from the guide (A) of chassis while turning it anti-clockwise.
2) Disassemble the lever tension while holding it up.

30. Lever Brake (Fig. A-7-8)

1) Disassemble the lever brake while holding it up.

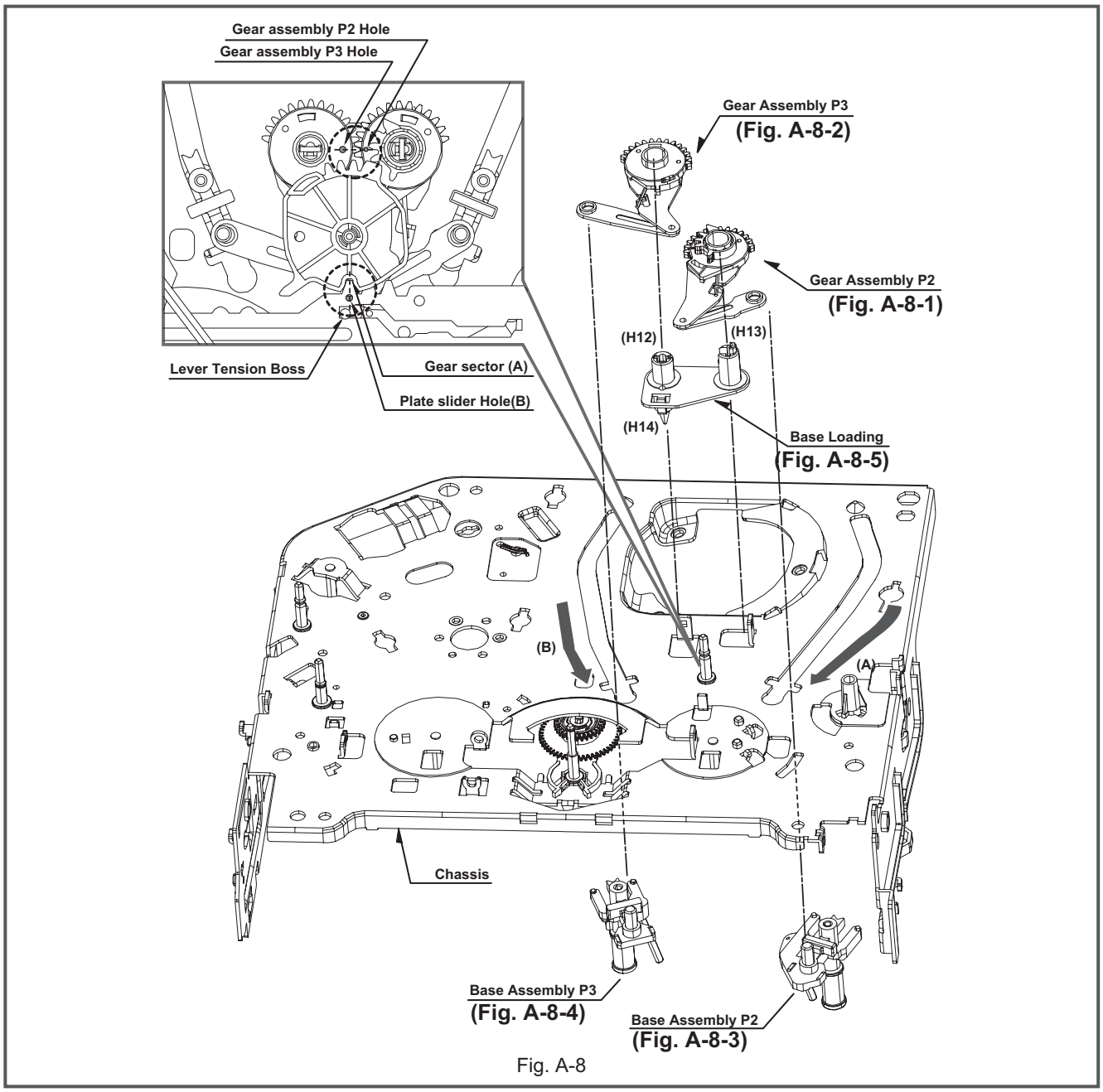


Fig. A-8

31. Gear Assembly P2 (Fig. A-8-1)/ Gear Assembly P3 (Fig. A-8-2)

1) Hold the gear assembly P2 upward.
2) Hold the gear assembly P3 upward.

CAUTIONS

For the assembly, check the holes of both the gear assembly P2 and the P3 are adjusted straightly, and then correspond the gear section groove (A) to the plate slider hole (B).

32. Base Assembly P2 (Fig. A-8-3)/ Base Assembly P3 (Fig. A-8-4)

1) Disassemble the base assembly P2 downward while moving it toward the arrow (A) direction along with the guide hole of chassis.
2) Disassemble the base assembly P2 downward while moving it toward the arrow (B) direction along with the guide hole of chassis.

33. Base Loading (Fig. A-8-5)

1) Release 3 hooks (H12, 13, 14) of the base loading, and then disassemble them upward.

- REVERSE THE MECHANISM.

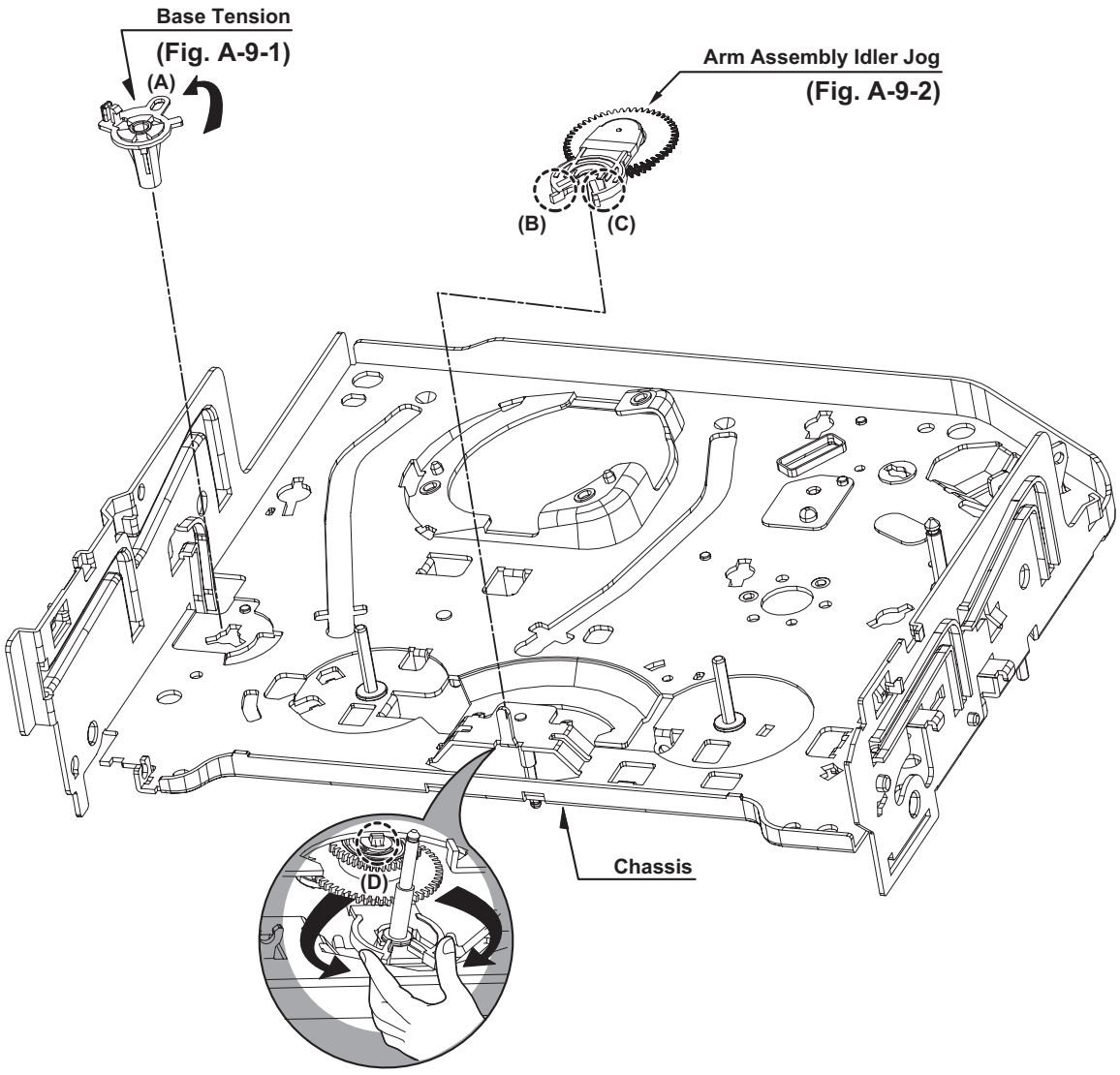


Fig. A-9

34. Base Tension (Fig. A-9-1)

1) Release the (A) part of the base tension from the embossing of chassis.
2) Hold the base tension upward while turning it anti-clockwise.

35. Arm assembly Idler Jog (Fig. A-9-2)

1) Push both (B), (C) parts in Fig. A-9-2 toward the arrow direction.
2) Disassemble the arm assembly idler upward.

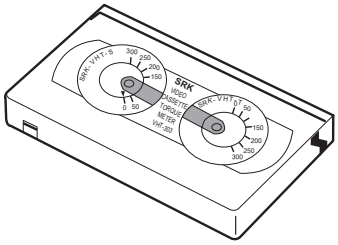
CAUTIONS

Take care to ensure that the (D) part in the drawing is not hung to chassis in disassembly.

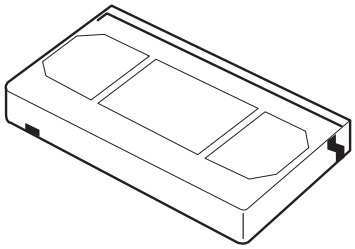
4.3 DECK MECHANISM ADJUSTMENT (VCR)

4.3.1 Tools and Fixfures for Service

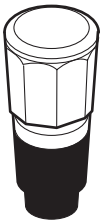
1. Cassette Torque Meter
PUJ42881



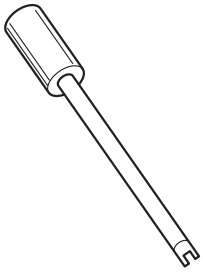
2. Alignment Tape
NTSC: MHP
PAL: MHPE



3. Torque Gauge
PUJ48075-2



5. Post Height Adjusting Driver (Roller driver)
PTU94002



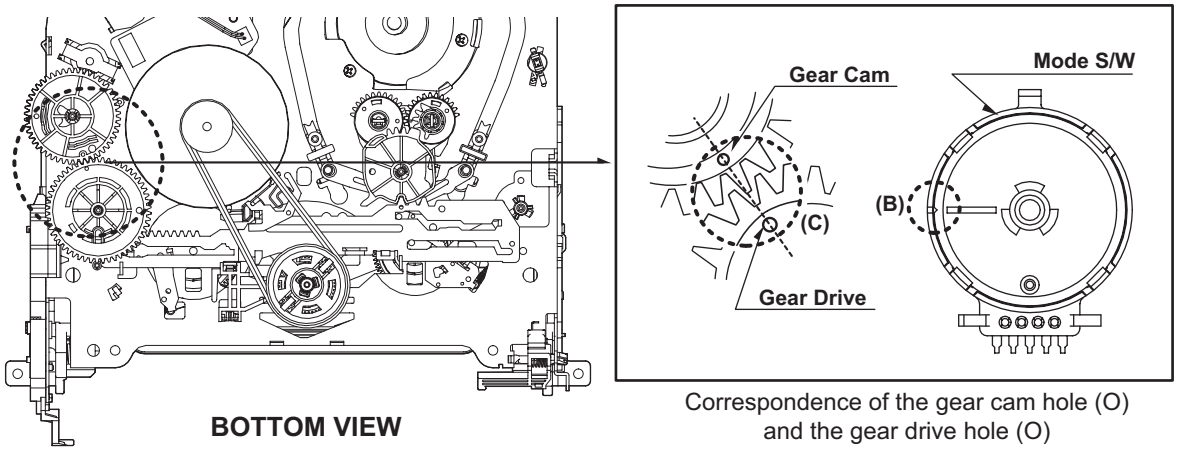
4.3.2 Mechanism Assembly Mode Check

Purpose of adjustment : To make tools normally operate by positioning tools accurately.

Fixtures and tools used	VCR (VCP) status	Checking Position
• Blank Tape (empty tape)	• Eject Mode (with cassette withdrawn)	• Mechanism and Mode Switch

1) Turn the VCR on and take the tape out by pressing the eject button.
2) Separate both top cover and plate top, and check both the hole (A) of gear cam and the hole (A') of chassis correspond (Fig. C-2).
3) If it is done as in the paragraph 2): Turn the gear cam as in No.2) after mantling the motor assembly L/D.
4) Undo the screw fixing the deck and the main frame, and separate the deck assembly. Check both the hole (A) of gear cam and the hole (A') of chassis correspond (Fig. C-1).
5) Check the mode S/W on the main P.C. board locates at a proper position as in (B) of the Fig. (C-1).
6) Connect the deck to the main P.C. board and perform all types of test.

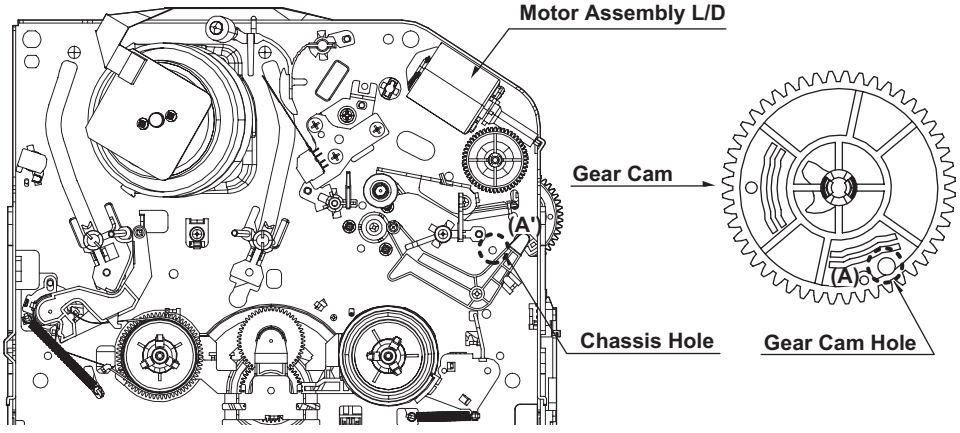
CHECK DIAGRAM



BOTTOM VIEW

Correspondence of the gear cam hole (O) and the gear drive hole (O)

Fig. C-1



TOP VIEW

Fig. C-2

4.3.3 Previous Preparation for Deck Adjustment

(Preparation to load the VCR (VCP) with cassette tape not inserted)

(1) Take the power cord from the consent.
(2) Separate the top cover and the plate assembly top.
(3) Insert the power cord into again.
(4) Turn the VCR (VCP) on and load the cassette while pushing the lever stopper of the holder assembly CST backward. In this case, clog both holes on the housing rail part of chassis to prevent detection of the end sensor.

If doing so, proceeding to the stop mode is done. In this status, input signals of all modes can be received. However, operation of the Rewind and the Review is impossible since the take-up reel remains at stop status and so cannot detect the reel pulse (however, possible for several seconds).

4.3.4 Torque Measuring

Purpose of Measuring : To measure and check the reel torque on the take-up part and the supply part that performs basic operation of the VCR (VCP) for smoothly forwarding the tape.
Measure and check followings when the tape is not smoothly wound or the tape velocity is abnormally proceeded:

Fixtures and tools used	VCR (VCP) status	Measuring method
・Torque Gauge (600 g.cm ATG) ・Torque Gauge Adaptor ・Cassette Torque Meter	・Play (FF) or Review (REW) Mode	・Try to operate the VCR (VCP) per mode with the tape not inserted (See 4.3.3 Prior Preparation for Deck Adjustment). ・Measure after adhering and fixing the torque gauge adaptor to the torque gauge (Fig. C-3-1) ・Read scale of the supply or take-up part of the cassette torque meter (Fig. C-3-2).

Item	Mode	Instruments	Reel Measured	Measuring Value
Fast forward Torque	Fast Forward	Torque Gauge	Take-Up Reel	More than 400g˚cm
Rewind Torque	Rewind	Torque Gauge	Supply Reel	More than 400g˚cm
Play Take-Up Torque	Play	Cassette Torque Meter	Take-Up Reel	40~100g˚cm
Review Torque	Review	Cassette Torque Meter	Supply Reel	40~210g˚cm

NOTE

Adhere the torque gauge adaptor to the torque gauge for measuring the value.

・Torque Gauge (600g.cm ATG)

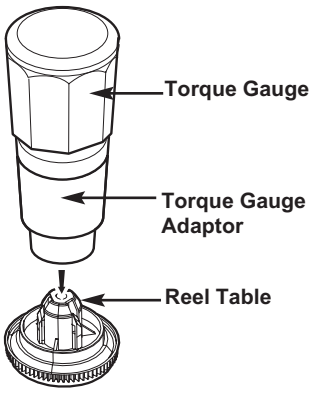


Fig. C-3-1

・Cassette Torque Meter

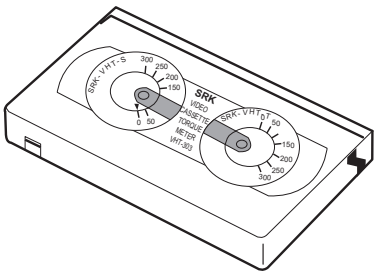


Fig. C-3-2

4.3.5 Guide Roller Height Adjustment

Purpose of adjustment : To ensure that the bottom surface of the tape can travel along with the tape lead line of the lower drum by constantly and adjusting and maintaining the height of the tape.

4.3.5.1 Prior Adjustment

Fixtures and tools used	VCR (VCP) status	Adjustment position
• Post Height Adjusting Driver	• Play or Review Mode	• The guide roller height adjusting screw on the supply guide roller and the take-up guide roller

Adjustment Procedure

1) Travel the tape and check the bottom surface of the tape travels along with the guide line of the lower drum.
2) If the tape travels toward the lower part of guide line on the lower drum, turn the guide roller height adjusting screw to the left
3) If it travels to the upper part, turn it to the right.
4) Adjust the height of the guide roller to ensure that the tape is guided on the guide line of the lower drum at the inlet/outlet of the drum. (Fig. C-4-1)

ADJUSTMENT DIAGRAM

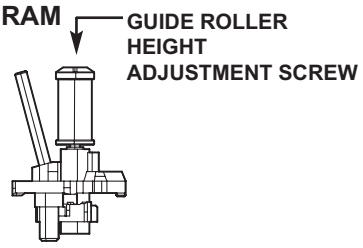


Fig. C-4-1

4.3.5.2 Fine Adjustment

Fixtures and tools used	Measuring tools and connection position	VCR (VCP) status	Adjustment position
• Oscilloscope • Alignment tape • Post height adjusting driver	• CH-1: PB RF Envelope • CH-2: NTSC : SW 30Hz PAL : SW 25Hz • Head switching output point • RF Envelope output point	• Play the standard test tape.	• Guide roller height adjusting screw

1) Play the Alignment tape after connecting the probe of oscilloscope to the RF envelope output point and the head switching output point.
2) Tracking control (playback) : Locate it at the center (Set the RF output to the maximum value via the tracking control when such adjustment is completed after the drum assembly is replaced.)
3) Height adjusting screw: Flatten the RF waveform. (Fig. C-4-2)
4) Move the tracking control (playback) to the right/left. (Fig. C-4-3)
5) Check the start and the end of the RF output reduction width are constant.

CAUTIONS

There must exist no crumpling and folding of the tape due to excess adjustment or insufficient adjustment.

Waveform

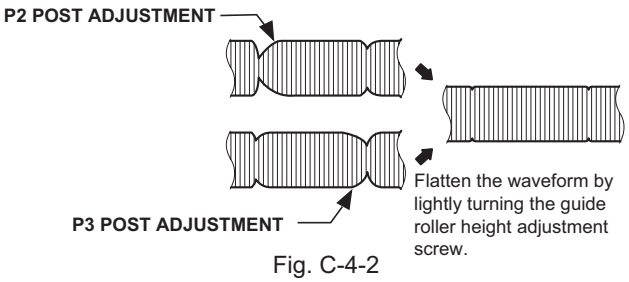

P2 POST ADJUSTMENT
P3 POST ADJUSTMENT
Flatten the waveform by lightly turning the guide roller height adjustment screw.

Fig. C-4-2

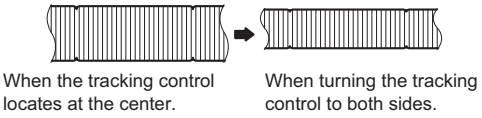
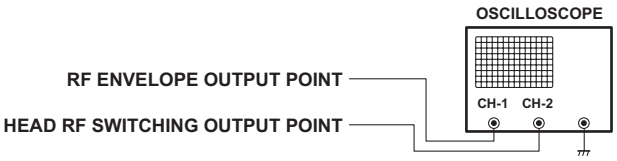


Fig. C-4-2

Connection Diagram



4.3.6 Audio/Control (A/C) Head Adjustment

Purpose of adjustment : To ensure that audio and control signals can be recorded and played according to the contract tract by constantly maintaining distance between tape and head, and tape tension between the P3 post and the P4 post.

4.3.6.1 Prior Adjustment (performed only when no audio output appears in play of the standard test tape)

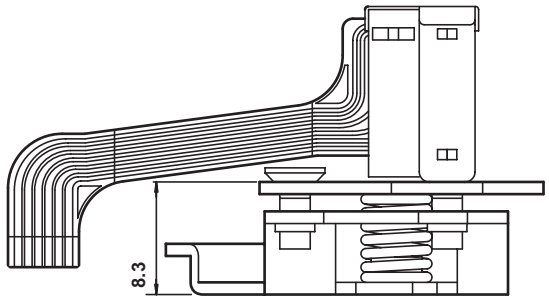
Fixtures and tools used	VCR (VCP) status	Adjustment position
• Blank Tape • Driver (+) Type 5mm	• Play the blank tape	• Tilt adjusting screw (C) • Height adjusting screw (B) • Azimuth adjusting screw (A)

Adjustment Procedure/Adjustment Diagrams

1) Basically use the A/C head assembly adjusted as in SPEC.
2) Check there is crumpling and folding of the tape around the A/C head. If it is, Turn and adjust the tilt adjusting screw to ensure that the tape corresponds to the bottom guide of the P4, and recheck the tape path after proceeding play for 4-5 seconds.
3) Where the tape bottom is not equal to Fig. C-5-3, Adjust the height by using the height adjusting screw (B) and then readjust it by using the tilt adjusting screw (C).

CAUTIONS

Always check the height of the A/C head since most ideal height of A/C head can be obtained when the bottom part of the tape is away 0.2 ~ 0.25mm from the bottom part of the A/C head.



A/C Head Base

Fig. C-5-1

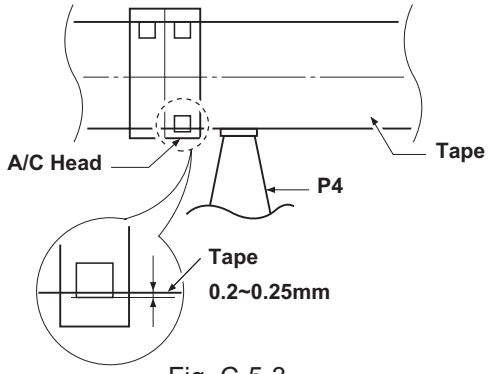
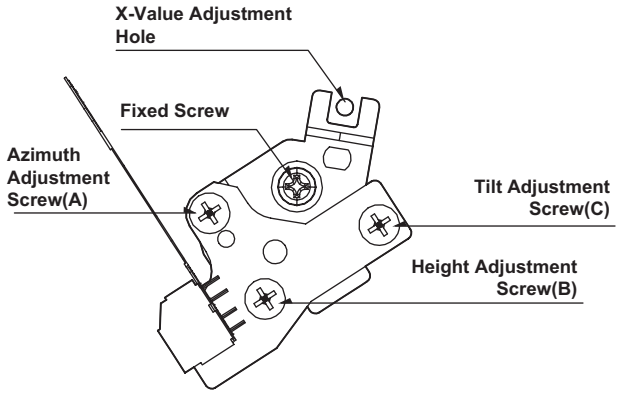


Fig. C-5-3



A/C Head Assembly

Fig. C-5-2

4.3.6.2 Tape Path Check between Pinch Roller and Take up Guide (Check in the Rev Mode)

1) Check the tape pass status between the pinch roller and the take-up guide.(Check there is crumpling of the tape pass and folding of the take-up guide.)
   (1) When holding of the take-up guide bottom occurs
   Turn the tilt adjusting screw (C) clockwise and travel it stably to ensure there is no crumbling or folding of the tape.
   (2) When holding of the take-up guide top occurs
   Turn the tilt adjusting screw (C) anti-clockwise and travel it stably to ensure there is no crumbling or folding of the tape.
2) Check there is folding of the tape at the bottom or top of the take-up guide in cutting-off the REV mode

CAUTIONS

If the RF waveform is changed after adjusting the A/C head, perform fine adjustment to ensure the RF waveform is flattened.

4.3.6.3 Fine Adjustment (Azimuth Adjustment)

Fixtures and tools used	Connection position	VCR (VCP) status	Adjustment position
• Oscilloscope • Standard test tape (only for SP) • Driver (+) Type 4mm	• Audio Output Jack	• Play the Alignment tape • 1KHz, 7KHz.	• Azimuth Adjusting Screw (A) • Height Adjusting Screw (B)

Adjustment Procedure

1) Connect the probe of Oscilloscope to the audio output jack.
2) Ensure that Audio 1KHz, 7KHz output is flattened at the maximization point by adjusting the Azimuth adjusting screw (A).

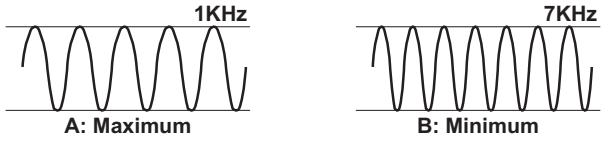
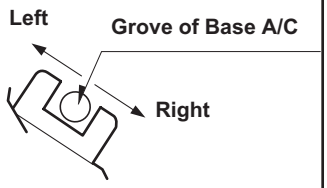


Fig. C-5-4

4.3.7 X-Value Adjustment

Purpose of adjustment : To maintain compatibility with other VCR (VCP).

Fixtures and tools used	Connection position	VCR (VCP) status	Adjustment position
• Oscilloscope • Standard test tape (only for SP) • Driver (+) Type 4mm	• CH-1: PB RF Envelope • CH-2: NTSC ; SW 30Hz PAL:SW 25Hz • Head switching output point • RF Envelope output point	• Play the Alignment tape	

Adjustment Procedure

1) After releasing the auto tracking, lightly turn the fixing screw. Turn the (+) type driver on the X-dis-tance adjusting hole to the right or left. Adjust the RF envelope level to the maximum point and then fix the fixing screws.
2) For the 31 µm head, adjust it with the SP tape recorded in the width of 31 µm since the head travels on the tape track only for SP with the width of 58 µm.

Connection Diagram

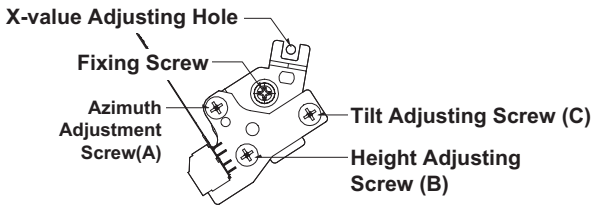
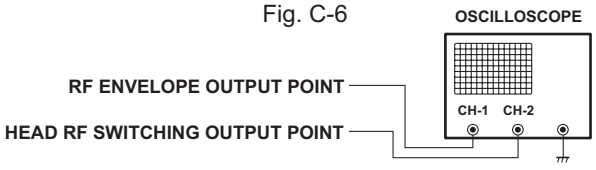


Fig. C-6



4.3.8 Adjustment after Drum Assembly (Video Heads)

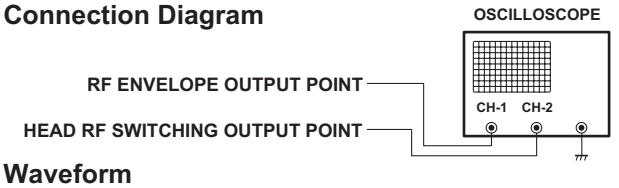
Purpose of adjustment : To adjust and stabilize the height change, X-distance change, etc depending on the guide roller after assembling the drum.

Fixtures and tools used	Connection position	VCR (VCP) status	Adjustment position
・Oscilloscope ・Alignment tape (only for SP) ・Post Height Adjusting Driver ・Driver (+) Type 5mm	・CH-1: PB RF Envelope ・CH-2: NTSC : SW 30Hz PAL:SW 25Hz ・Head switching output point ・RF Envelope output point	・Play the blank tape. ・Play the Alignment tape.	・Fine adjustment of guide roller ・Switching Point ・Tracking Preset ・X-value

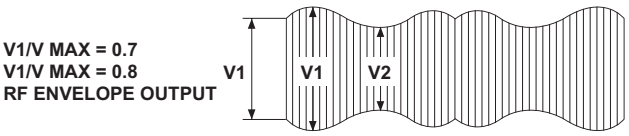
Checking/Adjustment Procedure

1) Play the blank tape and check whether the guide roller crumbles or wrinkles the tape and adjust it if necessary.
2) Check that the RF envelope output waveform is flat, and adjust the height of the guide roller while playing the alignment tape.
3) Adjust the switching point.
4) Check the RF envelope output is the maximum when the tracking control locates at the center. If not maximum, set up to ensure that RF envelope output becomes the maximum by turning the (+) type driver on the base A/C groove.

Connection Diagram



Waveform



4.3.9 Check of Traveling Device after Deck Assembly

4.3.9.1 Audio, RF Normalization Time (Locking Time) Check in Play after CUE or REV

Fixtures and tools used	Measuring standard	Connection position	VCR (VCP) status
・Oscilloscope ・Alignment tape (Colour bar) ・Stop Watch	・RF Locking Time: Within 5 seconds ・Audio Locking Time : Within 10 seconds	・CH-1: PB RF Envelope ・CH-2: Audio output ・RF Envelope output point ・Audio output jack	・Play the Alignment tape (Colour bar)

Checking Procedure

1) Check that locking time of the RF and Audio waveform is fallen within the measuring standard in conversion of the play mode from the CUE or the REV mode.
2) Readjust the paragraph 4.3.6 and 4.3.7 if it deviates from the standard.

4.3.9.2 Check of Tape Curl and Jam Status

Fixtures and tools used	Fixtures and tools used	Fixtures and tools used
・E-240 Tape ・E-160 Tape	・There must be no jam or curl at the first, middle and end position of tape.	・Travel the tape at the position of its first and end.

Checking Procedure

1) Check there is no abnormality of every traveling post status.
2) There must be no abnormal operation of the counter in occurrence of folding of the bottom tape. There must be not abnormality of audio signal in damage of the top tape.
3) If there is abnormality, readjust the adjustment paragraph 4.3.5 and 4.3.6.

4.4 PROTECTION, MAINTENANCE AND CHECK OF VIDEO FUNCTION (VCR)

4.4.1 Checking Points prior to Repair

Following abnormal phenomena may be repaired by removal of foreign materials and oil supply. Check oiling is required at the checking set or cleaning status is complete.

Determine that necessity of checking and repair the set exists after checking the using period of the set together with the user. In this case, followings must be checked:

Phenomena	Checking Points and Cause	Replacement	
Color beat	Pollution of Full-Erase Head	o	F/E Head
S/N, Color Faded	Pollution of Video Head	o	Video Head
Horizontal, Vertical Jitte	Pollution of Video Head or Tape Transport System	o	
Poor Sound, Low Sound	Pollution of Audio/Control Head	o	A/C Head
No tape wound or tape wound loosely. FF or REW impossible, or slow turning	Pollution of Pinch Roller or Belt Capstan Belt	o	Pinch Roller Belt Capston
Tape loosely wound in REV or Unloading	Deterioration of Clutch Assembly D37 Torque	o	Clutch Assembly A37
	Pollution of Drum and Traveling Device	Fig. C-9-3	

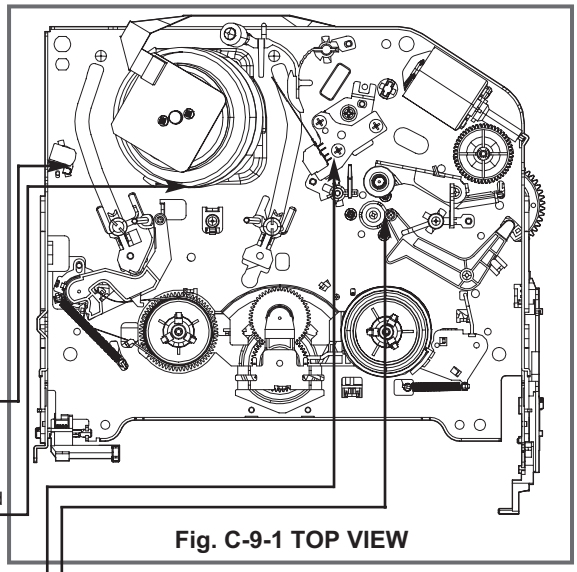


Fig. C-9-1 TOP VIEW

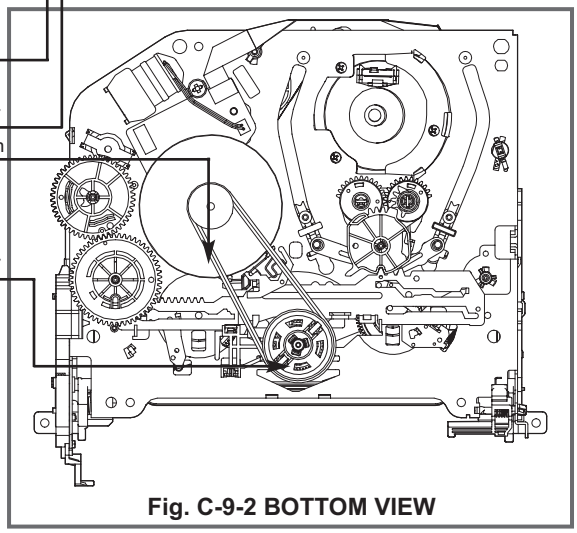


Fig. C-9-2 BOTTOM VIEW

CAUTIONS

If operation of the position with (O) mark is abnormal even after removing cause, replace it with substitute product since it shows damage or wearing.

*** No. (1) ~ (12) shows sequence that the tape moves from the supply reel to the take-up reel.)**

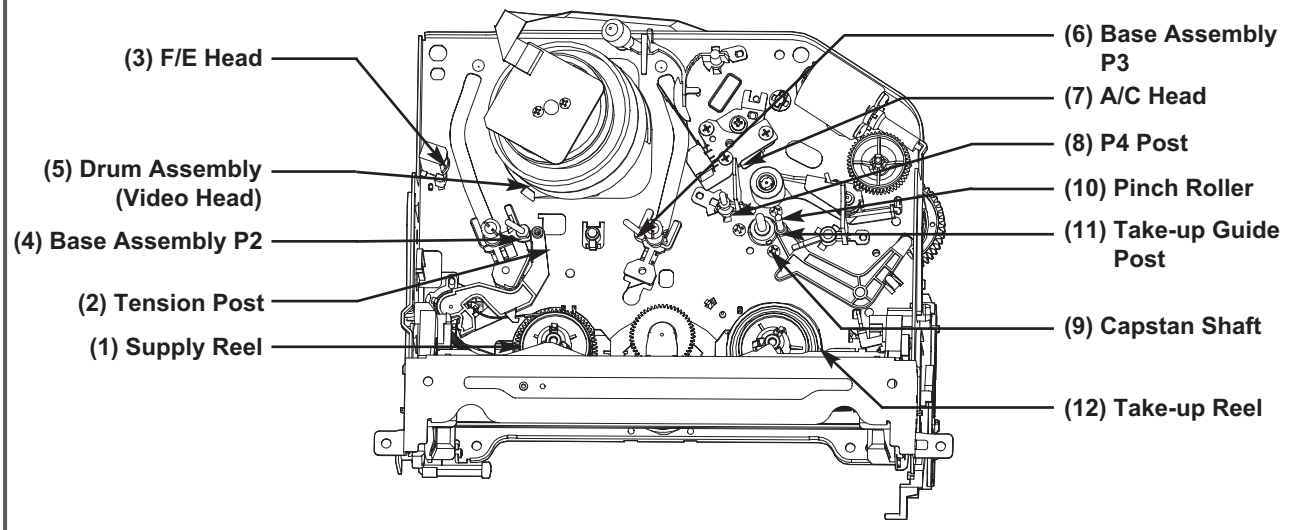


Fig. C-9-3 Tape Transport System

4.4.2 Essential Check and Repair

Recording density of the video is far higher than the audio. Therefore video parts are very precise so as to allow only error of 1/1000mm or so in order to maintain compatibility with other videos.

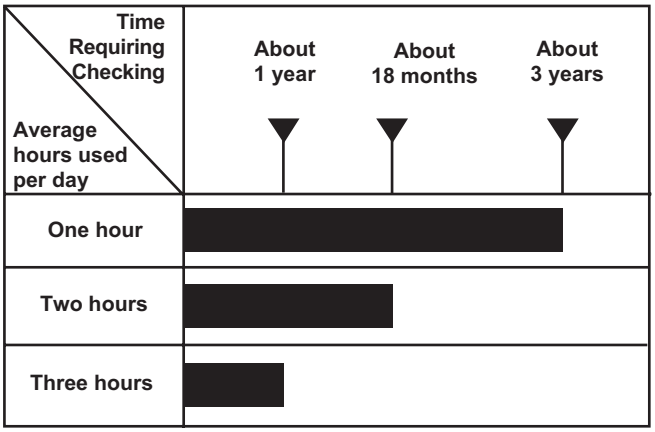
If one of these parts is polluted or old, same phenomena will appear as they are damaged.

To maintain clear screen, regular check, replacement of old and damaged parts and oil supply, etc are essential.

4.4.3 Regular Check and Repair

Check and repair schedule is not constant since they vary depending on method that the consumer uses video and environment where the video is installed at.

However, for the video used by common household, good screen will be maintained if regular check and repair per 1,000 hour is performed. The following chart shows relationship between using time and checking time:



4.4.4 Tools for Check and Repair

(1) Grease: Floil G-3114 (KANTO) or equivalent grease (Green)
(2) Grease: Kanto G-754, PL-433 (Yellow)
(3) Alcohol (Isopropyl Alcohol)
(4) Cleaning Patch (cloth)

4.4.5 Maintenance Process

4.4.5.1 Removal of Foreign Material

(1) Removal of foreign material from video head (Fig. C-9-4)
Firstly try to use a cleaning tape.
Use a cleaning patch if foreign materials are not removed with the cleaning tape due to severe dirty of the head.
Soak the cleaning patch in alcohol and put it to the head tip.
Smoothly turn the drum (turning cylinder) to the right or left (In this case, the cleaning patch must not be moved vertically).
After completely drying the head, test the traveling status of the tape.
If alcohol (Isopropyl Alcohol) remains at the video head, the tape may be damaged when this solution touches with the head surface.

Never use a cloth bar (commercial sale)

(2) Wipe the tape transport system and the drive system with the cleaning patch soaked in alcohol (Isopropyl Alcohol) when removing foreign materials from them.
1) The part touched with the traveling tape is called as tape transport system. The drive system consists of parts to travel the tape.
2) Care must be exercised so that unreasonable force to change the pattern will be applied to the tape transport system during removal of foreign materials.

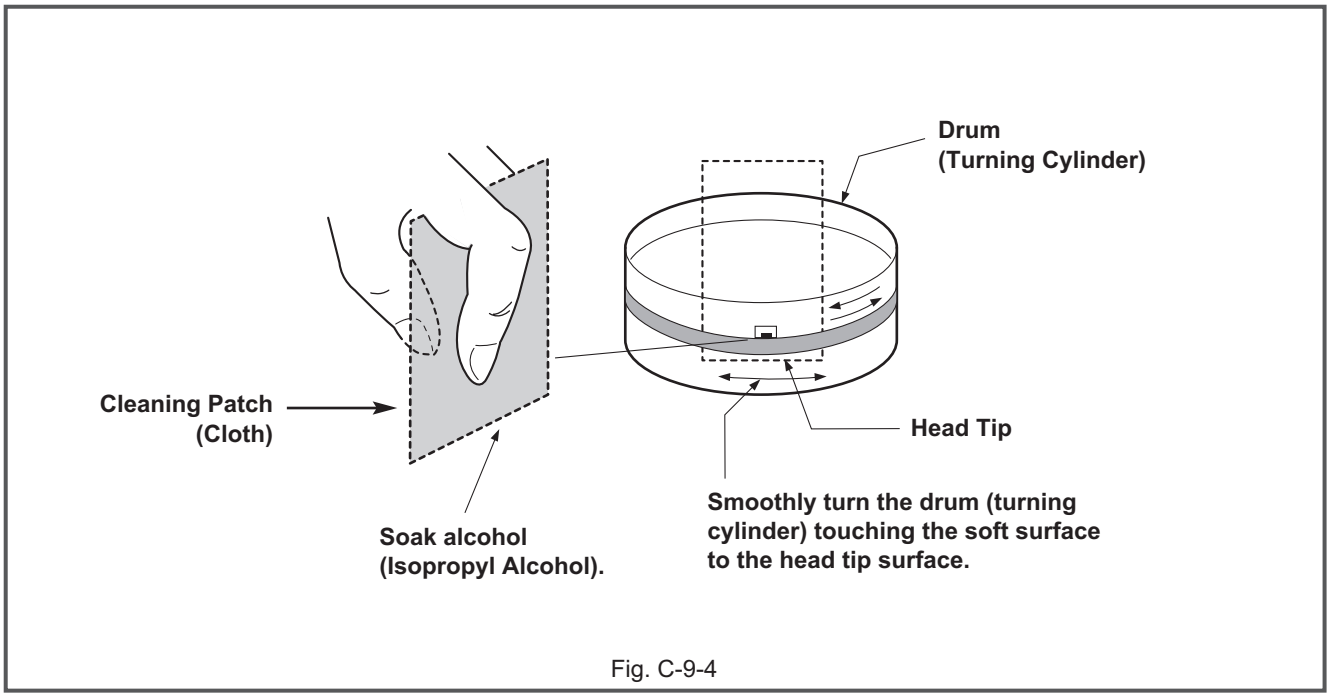


Fig. C-9-4

4.4.5.2 Grease Applications

(1) Grease Application Method

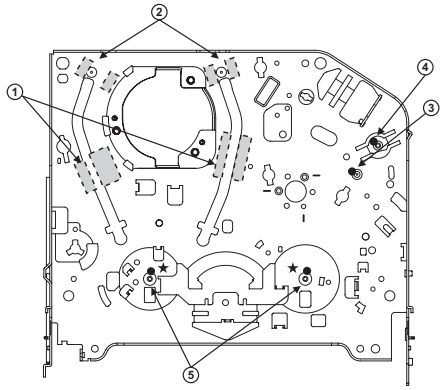
Apply grease by using a cloth swab or brush. Care must be exercised so that excess quantity should not be used. If the excessive quantity is applied, wipe it with the gauze soaked in alcohol (Isopropyl Alcohol).

(2) Regular Grease Application

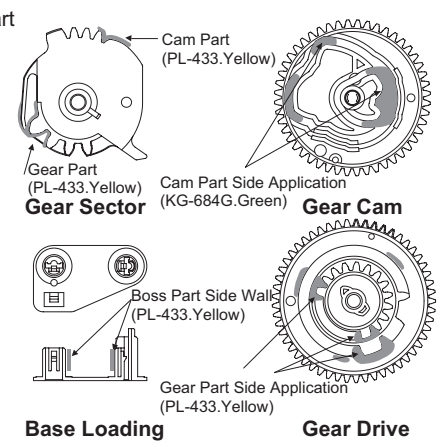
Apply grease to the designated application position every 500 hour.

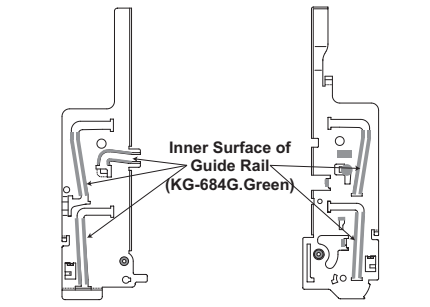
NOTE: POSITION OF GREASE APPLICATION

(1) Inner Side Surface and Top Surface of Loading Path
(2) Stable Adhesion Part of Base P2, P3
(3) Arm Pinch Shaft
(4) Gear Wheel Shaft
(5) Reel S. T. Shaft
(1) (2) (3) (4): KG-684G (Green)
(5): PL-433 (Yellow)

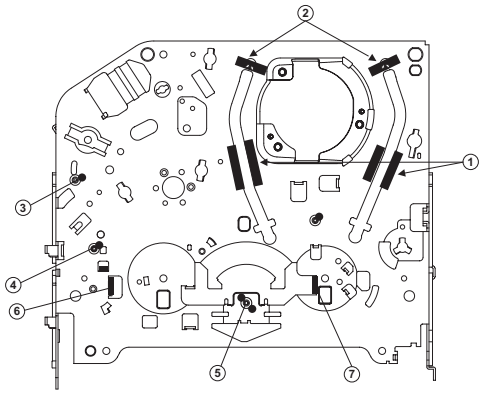


Chassis (TOP)

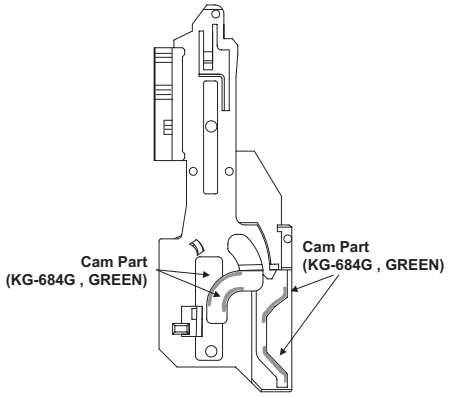




(1) Inner Side Surface and Top Surface of Loading Path
(2) Stable Adhesion Part of Base P2, P3 Coil
(3) Gear Cam Shaft
(4) Gear Drive Shaft
(5) Clutch Shaft Groove
(6) Guide Part on the Plate Slider Side Wall (Left)
(7) Guide Part on the Plate Slider Side Wall (Right)
(1) (2) (3) (4) (5) (6) (7): KG-684G (Green)



Chassis (Bottom)



Gear Rack F/L

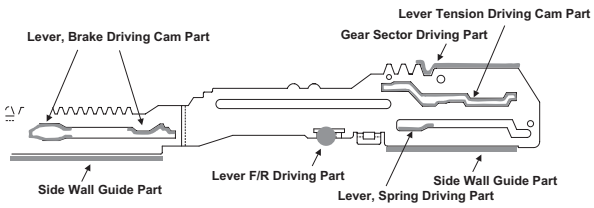
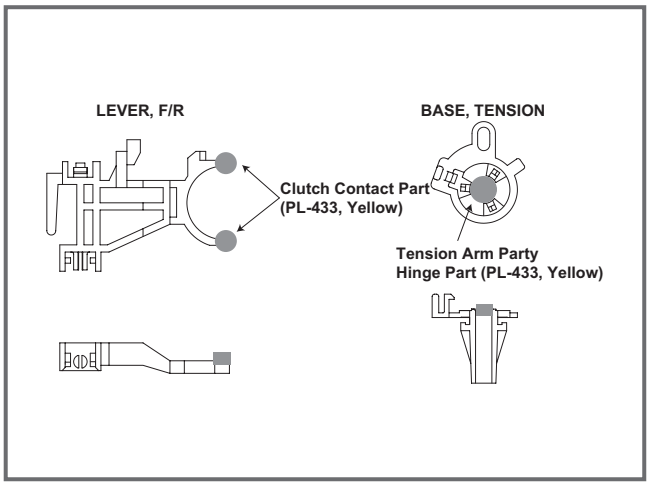
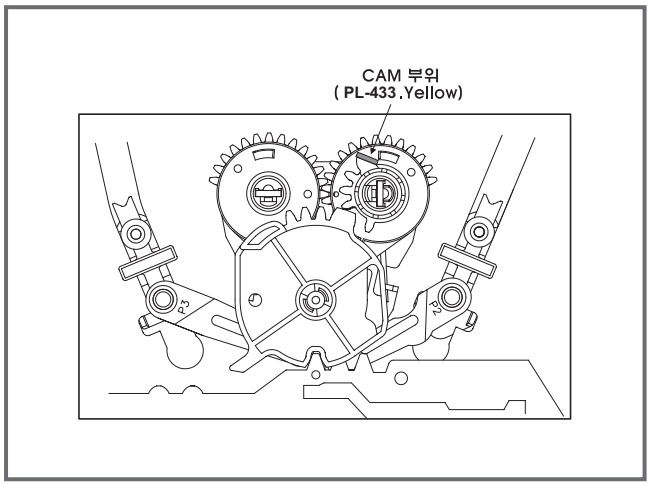

Lever, Brake Driving Cam Part
Lever Tension Driving Cam Part
Gear Sector Driving Part
Side Wall Guide Part
Lever F/R Driving Part
Side Wall Guide Part
Lever, Spring Driving Part

Plate Slider

Lever, F/R, Base, Tension



GEAR AY, P2 & P3



4.5 ELECTRICAL ADJUSTMENT PROCEDURES (VCR)

4.5.1 Servo Adjustment

1) PG Adjustment

▪ Test Equipment

a) OSCILLOSCOPE	b) Alignment tape (SP, stairstep)

▪ Adjustment And Specification

MODE	MEASUREMENT POINT	ADJUSTMENT POINT	SPECIFICATION
PLAY	V.Out H/SW(TP)	R/C TRK JIG KEY	6.5 ± 0.5H

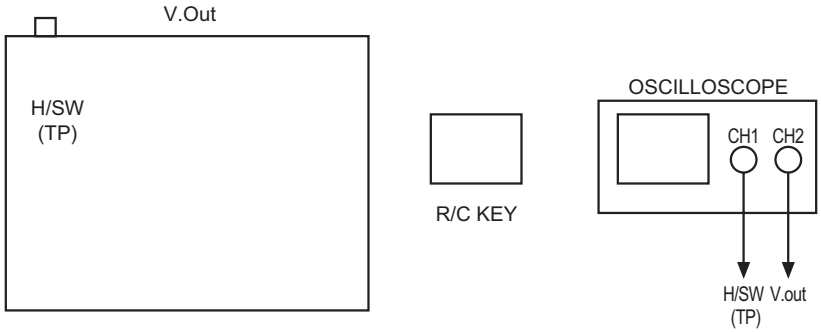
▪ Adjustment Procedure

a) Insert the Alignment Tape and play.
   Note - Adjust the distance of X, pressing the Tracking(+) or Tracking(-) when the "ATR" is blink after the Alignment Tape is inserted.
b) Connect the CH1 of the oscilloscope to the H/SW(TP) and CH2 to the Video Out for the VCR.
c) Trigger the mixed Combo Video Signal of CH2 to the CH1 H/SW(TP) and then check the distance (time difference), which is from the selected A(B) Head point of the H/SW(TP) signal to the starting point of the vertical synchronized signal, to 6.5H ± 0.5H (412μs, 1H=63μs).

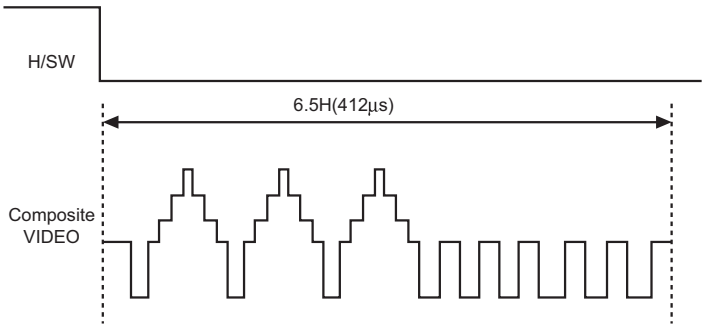
▪ PG Adjustment Method

a-1) Playback the Alignment tape
b-2) Press the "OK(ENTER)" key on the Remote controller and the "REC" key on the Front Panel the same time, then it goes in to Tracking initial mode.
c-3) Repeat the above step(No.b-2), then it finishes the PG adjusting automatically.
d-4) Stop the playback, then it goes out to PG adjusting mode after mony the PG data.

▪ CONNECTION

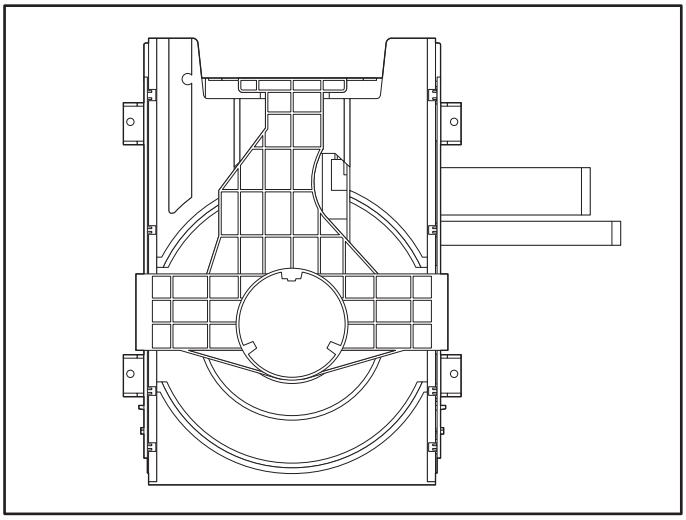


▪ WAVEFORM

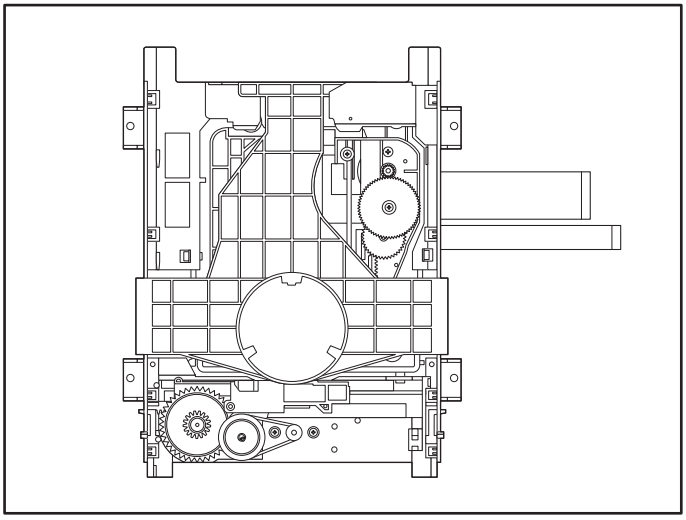


4.6 DECK MECHANISM PARTS LOCATION (DVD)

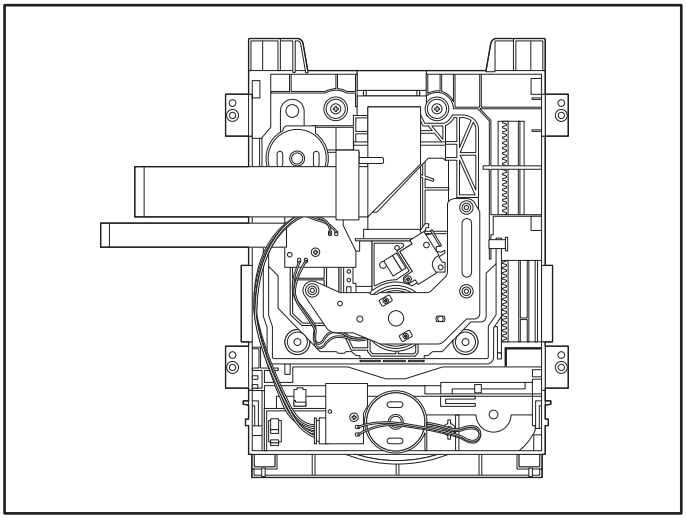
Top View (With Tray)



Top View (Without Tray)



Bottom View



Procedure Starting No.		Parts	Fixing Type	Disassembly	Figure
	1	Main Base			5-1
1	2	Clamp Assembly Disc			5-1
1, 2	3	Plate Clamp			5-1
1, 2, 3	4	Magnet Clamp			5-1
1, 2, 3, 4	5	Clamp Upper			5-1
1	6	Tray Disc			5-2
1, 6	7	Base Assembly Sled			5-3
1, 2, 6	8	Gear Feed	4 Screws, 1 Connector 1 Locking Tabs		5-3
1, 2, 6, 8	9	Gear Middle			5-3
1, 2, 6, 8, 9	10	Gear Rack	1 Screw		5-3
1, 2, 7	11	Rubber Rear			5-3
1, 2, 7	12	Frame Assembly Up/Down	1 Screw	Bottom	5-4
1, 2	13	Belt Loading	1 Locking Tab		5-4
1, 2 ,13	14	Gear Pulley			5-4
1, 2, 13, 14	15	Gear Loading	1 Locking Tab		5-4
1, 2, 7, 12, 13, 14	16	Guide Up/Down			5-4
1, 2, 13	17	PWB Assembly Loading	1 Locking Tab 1 Hook 2Screw	Bottom	5-4
1, 2, 7, 12, 13, 14, 15, 16, 17	18	Base Main	2 Locking Tabs		5-4

Note

When reassembling, perform the procedure in reverse order.

The "Bottom" on Disassembly column of above Table indicates the part should be disassembled at the Bottom side.

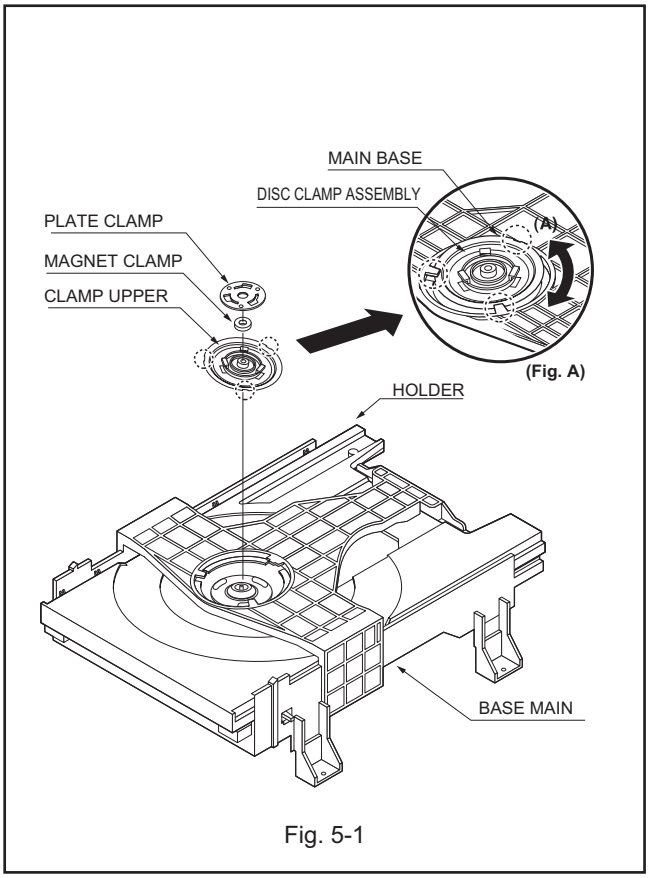


Fig. 5-1

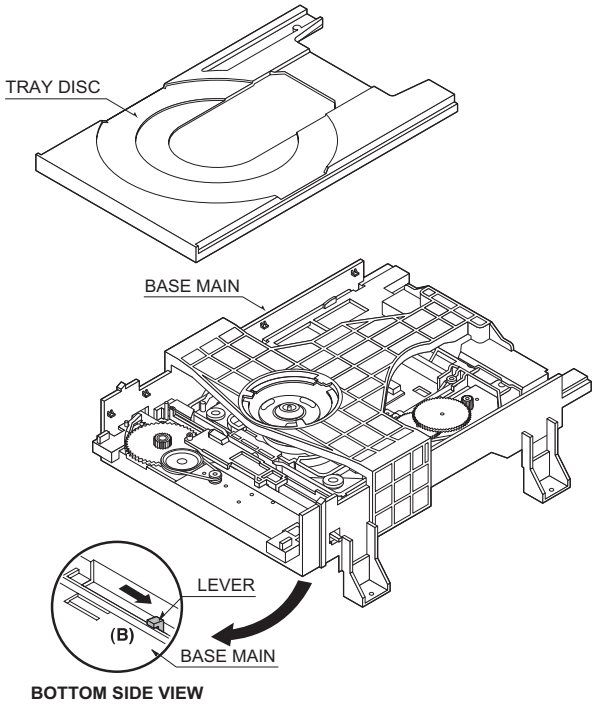


Fig. 5-2

1.Main Base (Fig. 5-1)

1-1. Clamp Assembly Disc

1) Place the Clamp Assembly Disc as Fig. (A)
2) Lift up the Clamp Assembly Disc in direction of arrow(A).
3) Separate the Clamp Assembly Disc from the Holder Clamp.

1-1-1. Plate Clamp

1) Turn the Plate Clamp to counterclockwise direction and then lift up the Plate Clamp.

1-1-2. Magnet Clamp

1-1-3.Clamp Upper

2. Tray Disc (Fig. 5-2)

1) Insert and push a Driver in the emergency eject hole(A) at the right side, or put the Driver on the Lever(B) of the Gear Emergency and pull the Lever(B) in direction of arrow so that the Tray Disc is ejected about 15~20mm.
2) Pull the Tray Disc until it is separated from the Base Main completely.

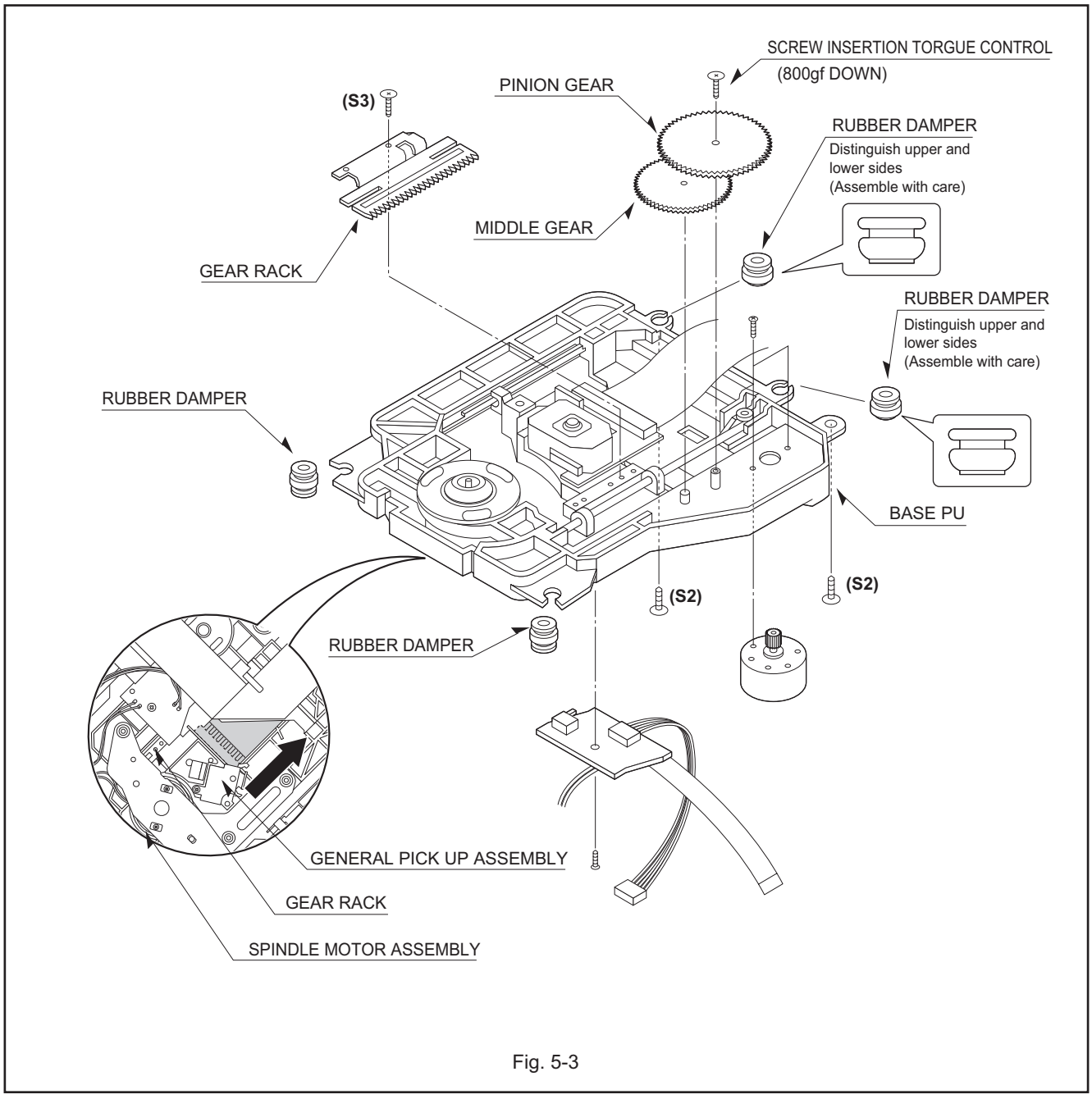


Fig. 5-3

3.Base Assembly Sled (Fig. 5-3)

1) Release 4 Screw(S2).
2) Disconnect the FFC Connector(C1)

3-1. Gear Feed

3-2. Gear Middle

3-3. Gear Rack

1) Release the Scerw(S3)

4. Rubber Rear (Fig. 5-3)

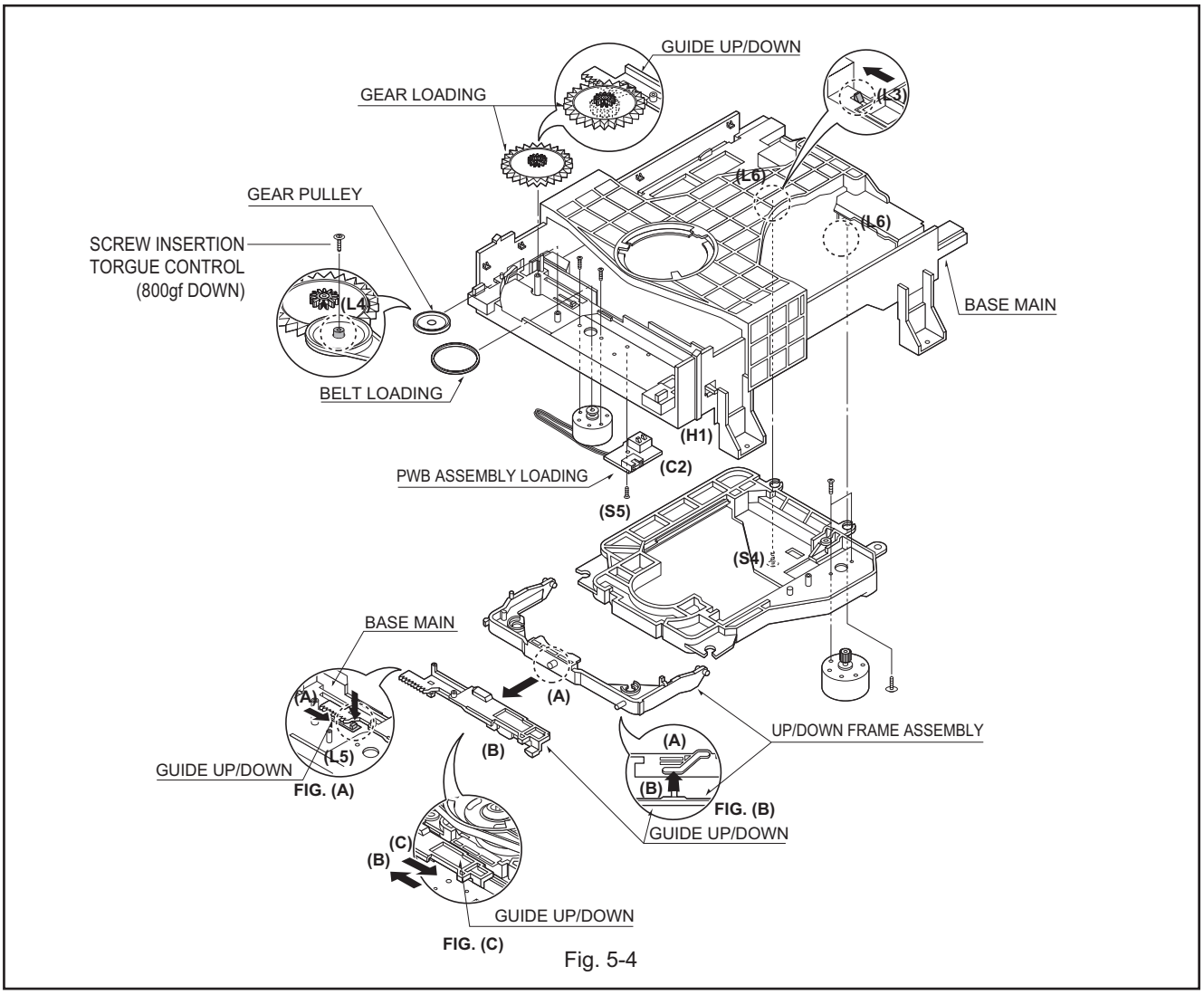


Fig. 5-4

5. Frame Assembly Up/Down (Fig. 5-4)

Note

Put the Base Main face down(Bottom Side)

1) Release the screw(S4)
2) Unlock the Locking Tab(L3) in direction of arrow and then lift up the Frame Assembly Up/Down to separate it from the Base Main.

Note

- When reassembling move the Guide Up/Down in direction of arrow(C) until it is positioned as Fig.(C).
- When reassembling insert (A) portion of the Frame Assembly Up/Down in the (B) portion of the Guide Up/Down as Fig.(B)

6. Belt Loading(Fig. 5-4)

Note

Put the Base Main on original position(Top Side)

7. Gear pulley (Fig. 5-4)

1) Unlock the Locking Tab(L4) in direction of arrow(B) and then separate the Gear Pulley from the Base Main.

8. Gear Loading (Fig. 5-4)

9. Guide Up/Down (Fig. 5-4)

1) Move the Guide Up/Down in direction of arrow(A) as Fig.(A)
2) Push the Locking Tab(L5) down and then lift up the Guide Up/Down to separate it from the Base Main.

Note

When reassembling place the Guide Up/Down as Fig.(C) and move it in direction arrow(B) until it is locked by the Locking Tab(L5). And confirm the Guide Up/Down as Fig.(A)

10. PWB Assembly Loading (Fig. 5-4)

Note

Put the Base Main face down(Bottom Side)

1) Release 1 Screws(S5)
2) Unlock the Loading Motor (C2) from the Hook (H1) on the Base Main.
3) Unlock 2 Locking Tabs(L6) and separate the PWB Assembly Loading from the Base Main.

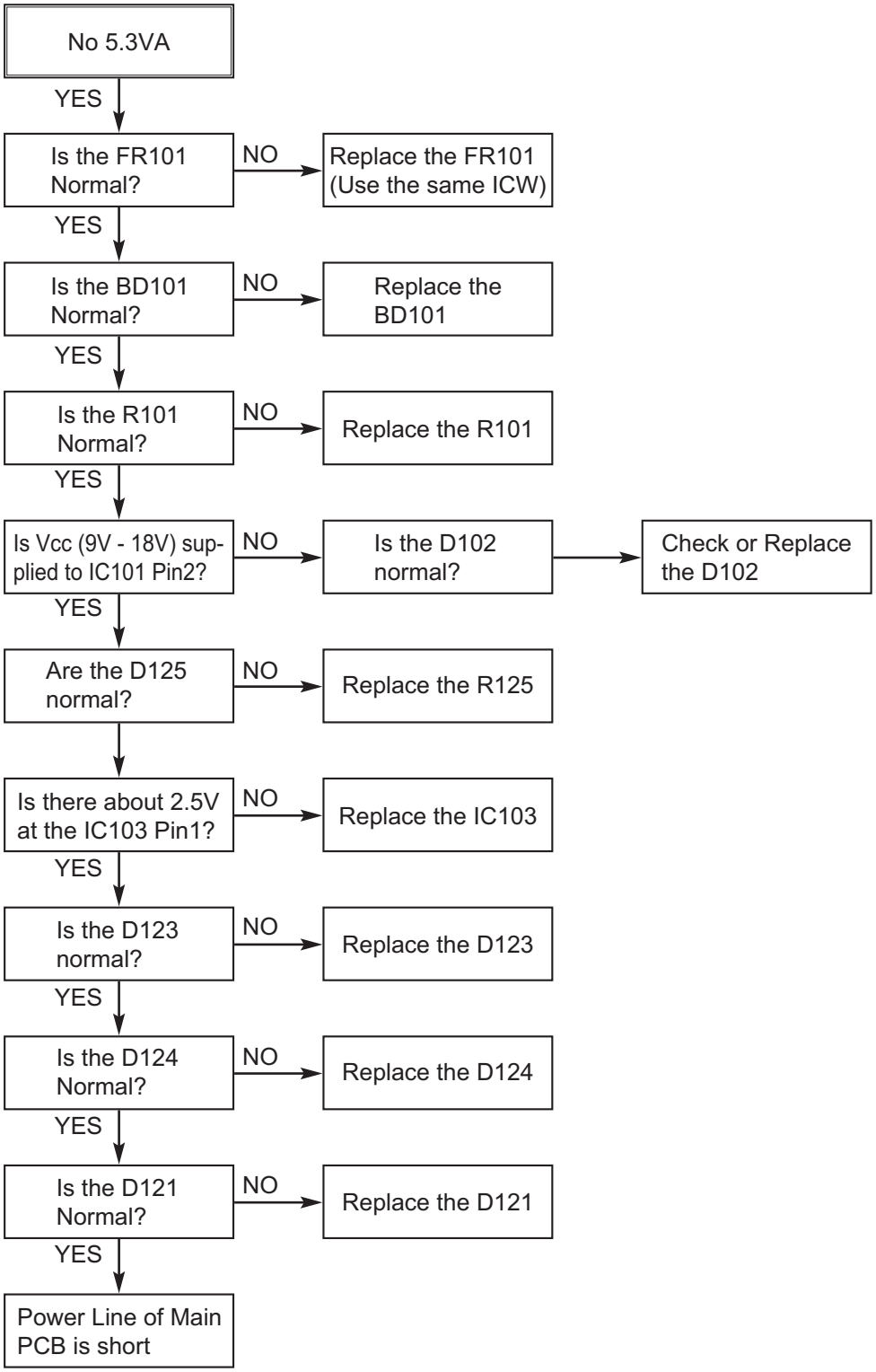
11. Base Main(Fig. 5-4)

SECTION 5
TROUBLESHOOTING

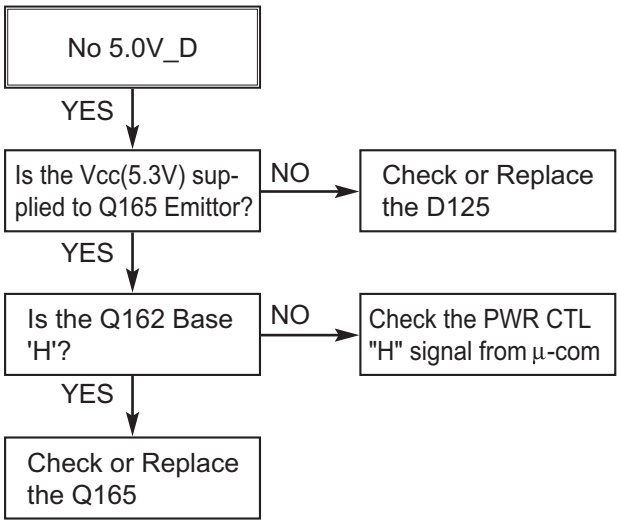
5.1 ELECTRICAL TROUBLESHOOTING GUIDE (VCR PART)

5.1.1 Power(SMPS) CIRCUIT

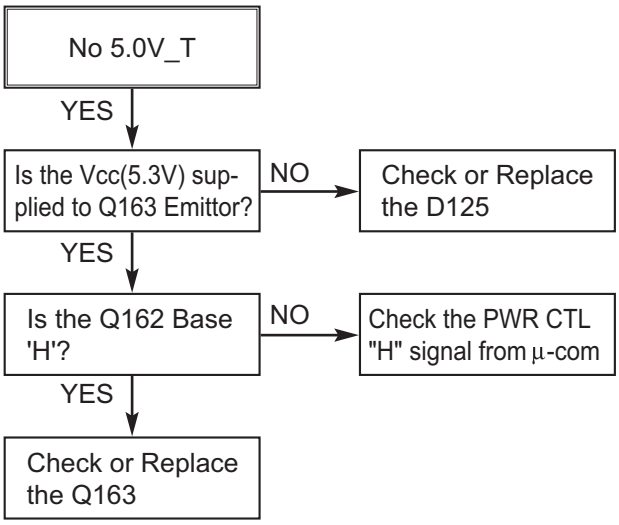
(1) No 5.3VA



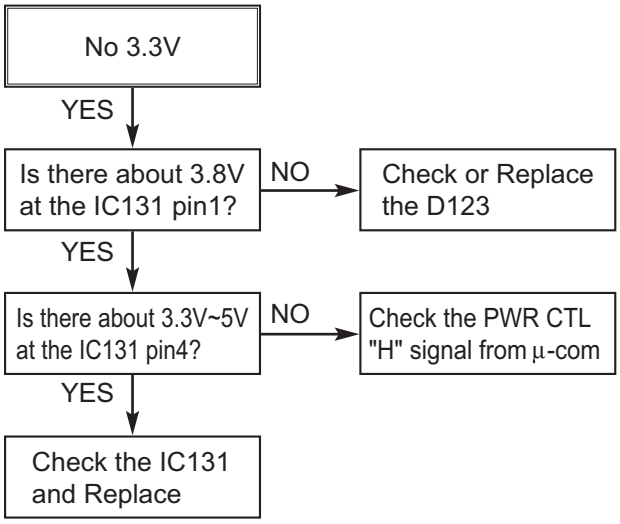
(2) No 5.0V_D



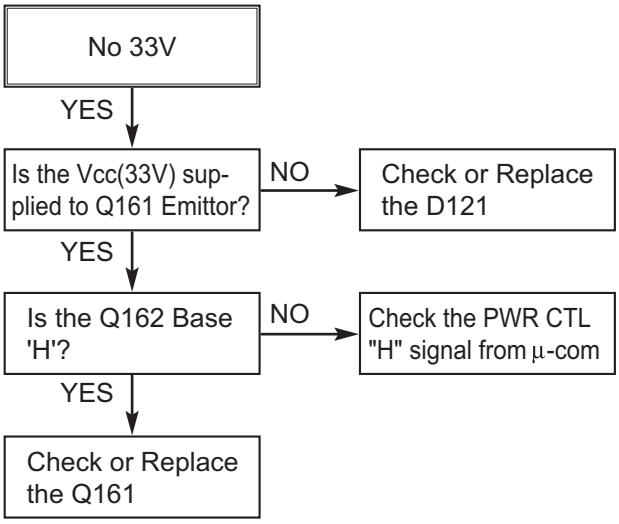
(3) No 5.0V_T



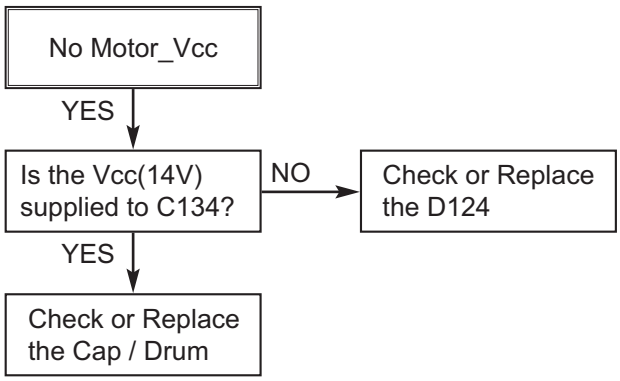
(4) No 3.3V



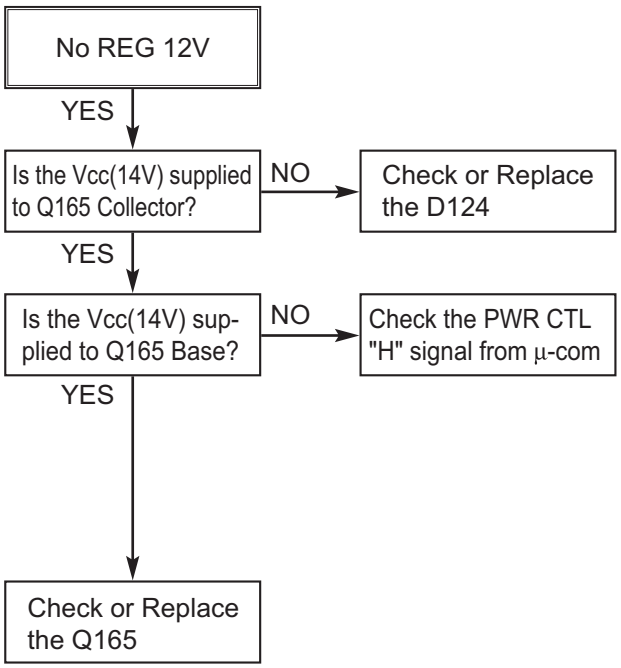
(5) No 33V



(6) No Motor_Vcc (To Cap, Drum Motor)

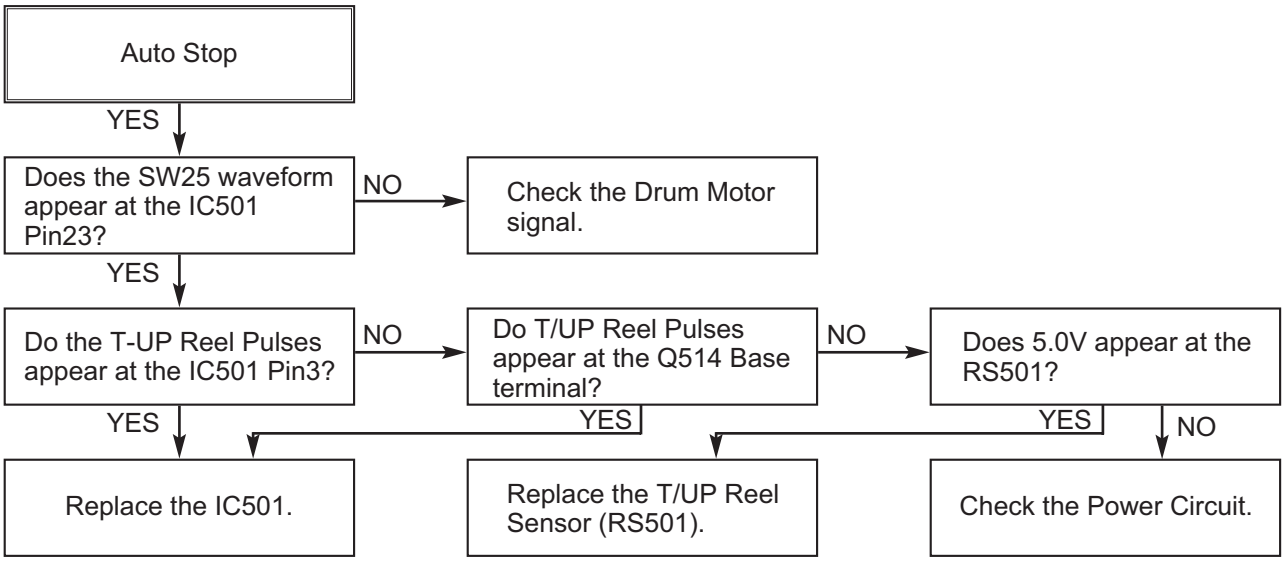


(7) No REG 12V

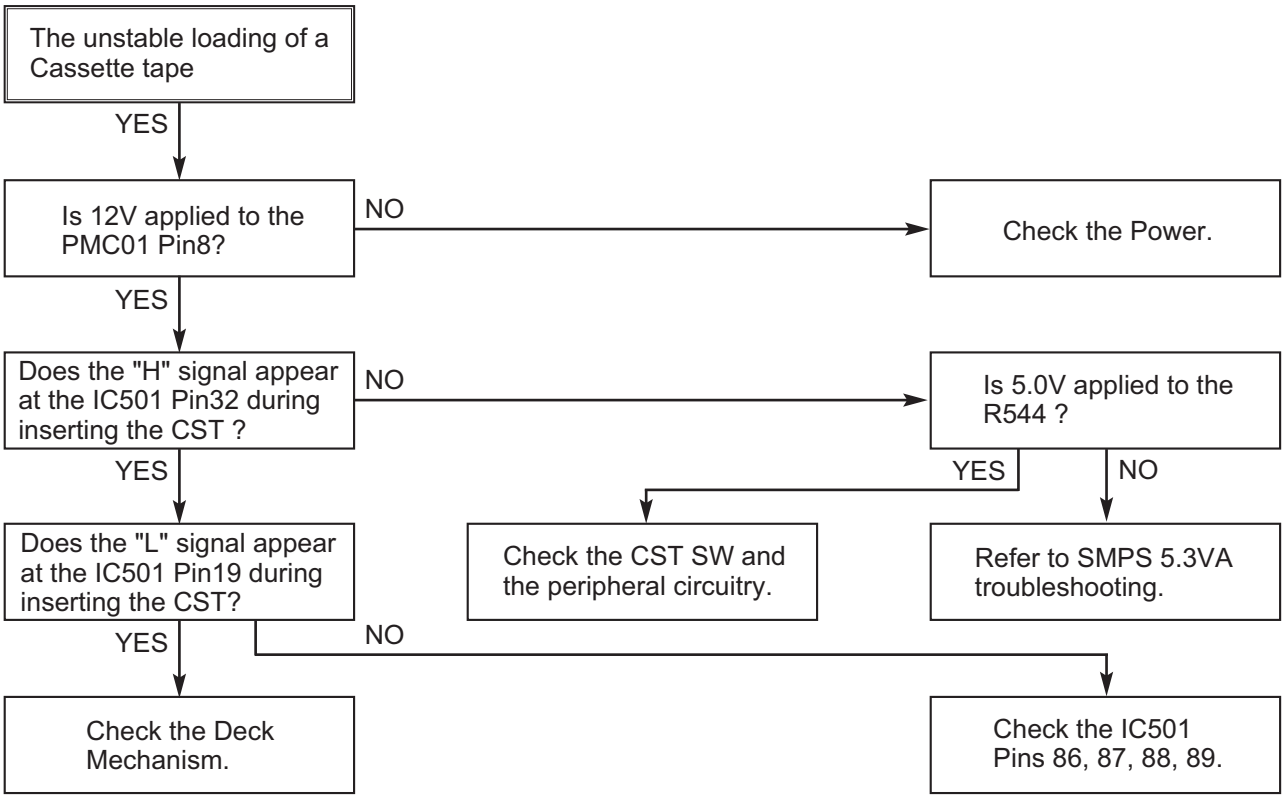


5.1.2 SYSTEM/KEY CIRCUIT

(1) AUTO STOP



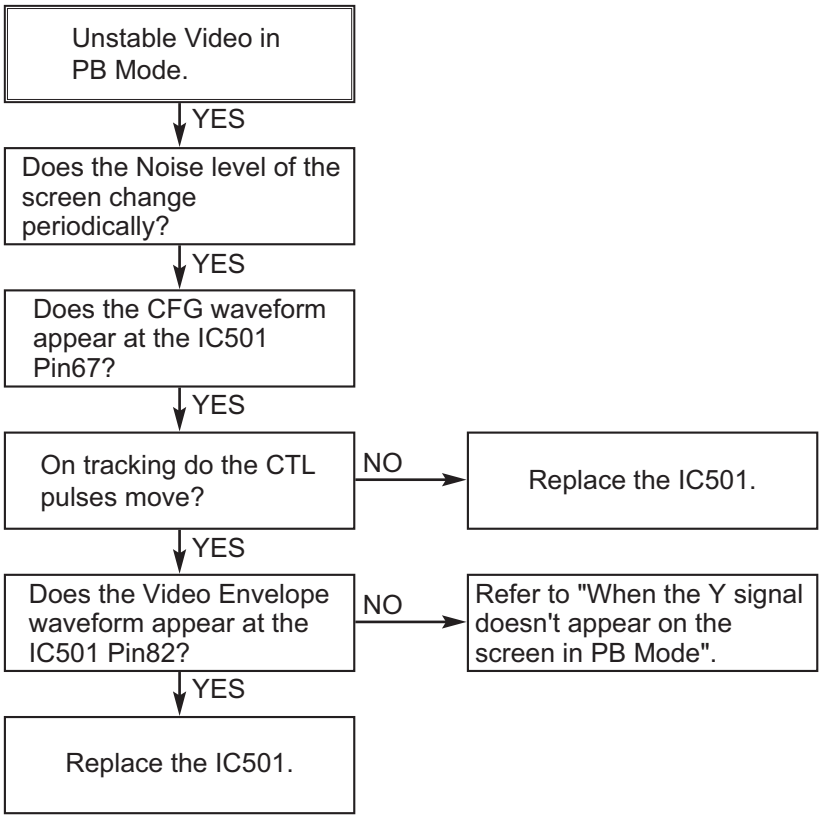
(2) The unstable loading of a Cassette tape


The unstable loading of a Cassette tape
YES
Is 12V applied to the PMC01 Pin8?
NO
Check the Power.
YES
Does the "H" signal appear at the IC501 Pin32 during inserting the CST ?
NO
Is 5.0V applied to the R544 ?
YES
YES
NO
Does the "L" signal appear at the IC501 Pin19 during inserting the CST?
Check the CST SW and the peripheral circuitry.
Refer to SMPS 5.3VA troubleshooting.
YES
NO
Check the Deck Mechanism.
Check the IC501 Pins 86, 87, 88, 89.

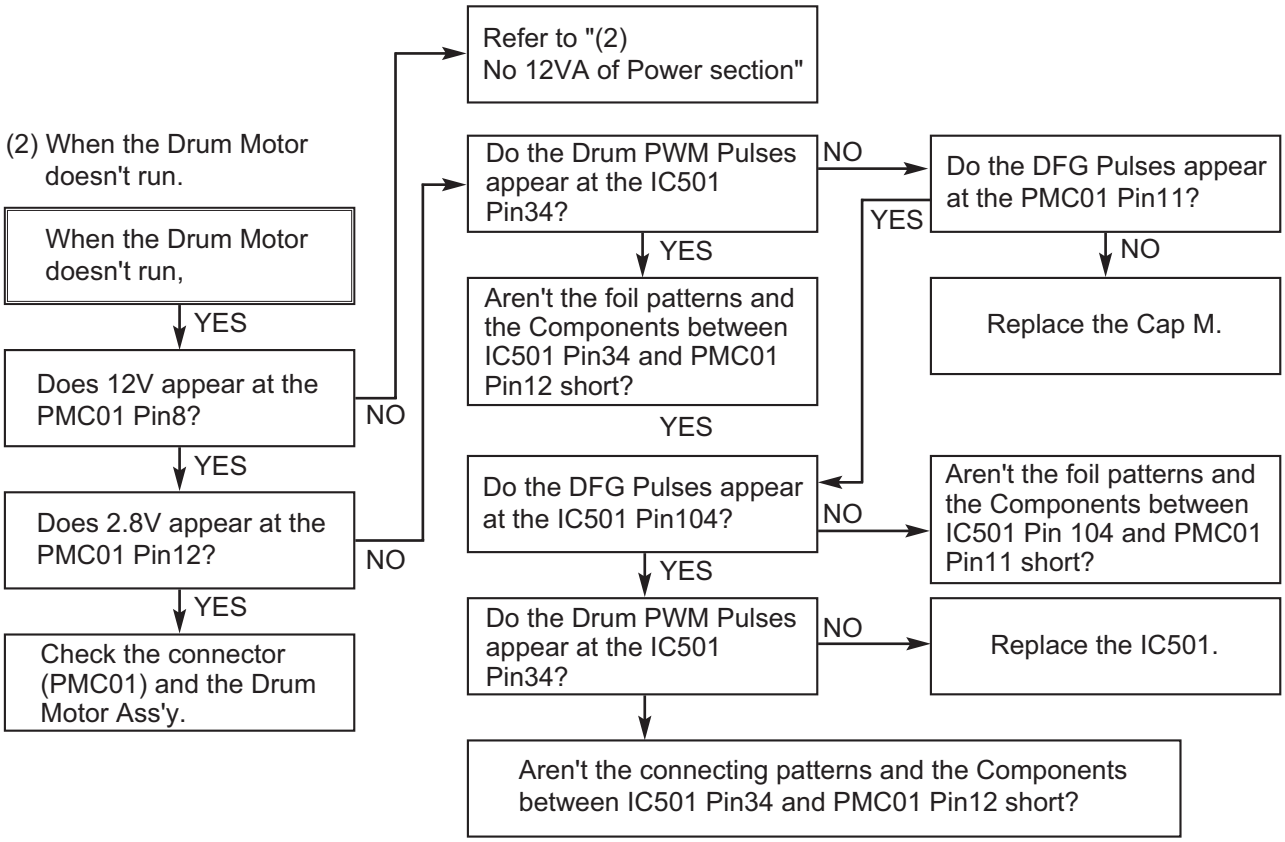
Caution : Auto stop can occur because Grease or Oil is dried up

5.1.3 SERVO CIRCUIT

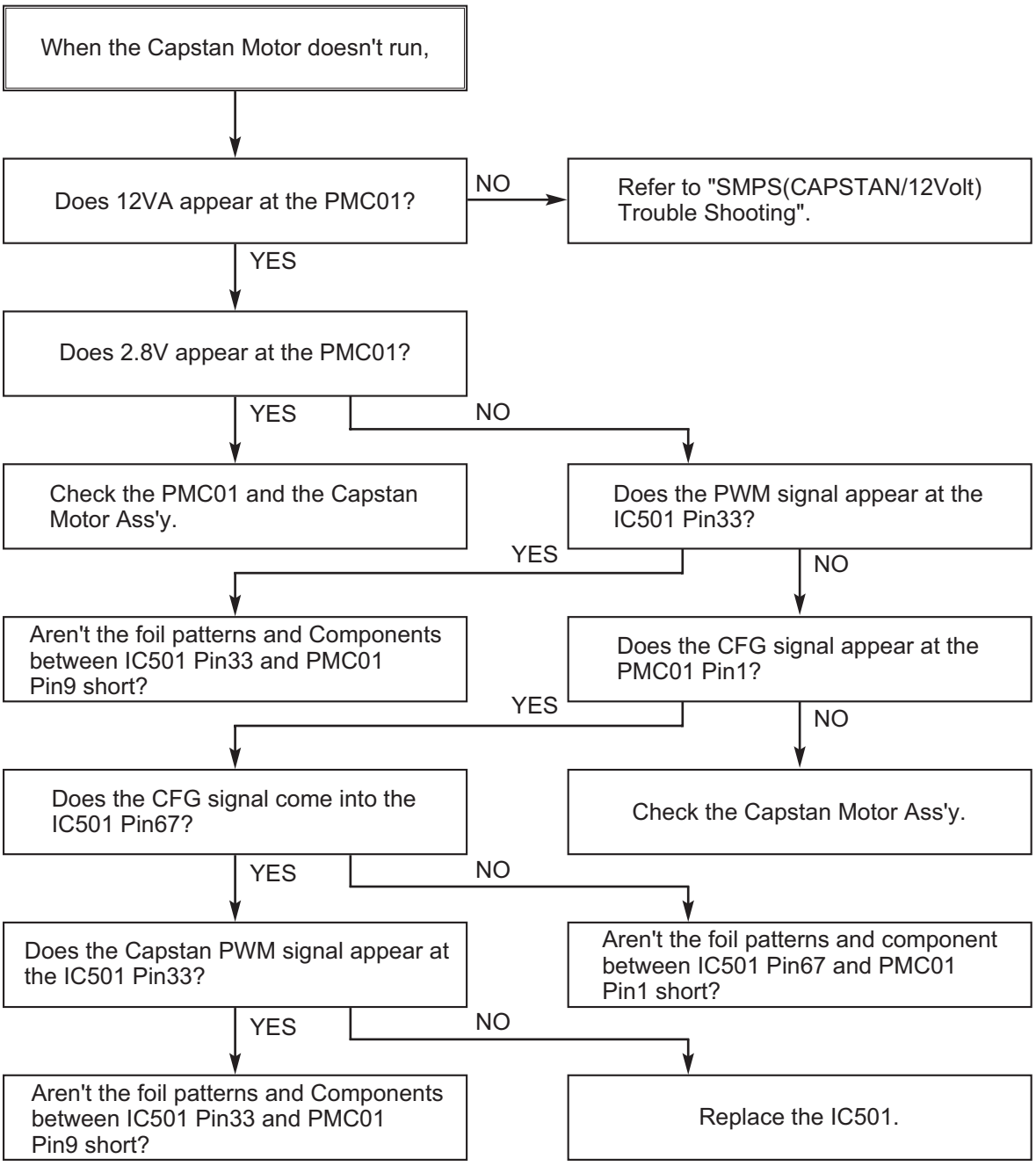
(1) Unstable Video in PB MODE


Unstable Video in PB Mode.
YES
Does the Noise level of the screen change periodically?
YES
Does the CFG waveform appear at the IC501 Pin67?
YES
On tracking do the CTL pulses move?
NO
Replace the IC501.
YES
Does the Video Envelope waveform appear at the IC501 Pin82?
NO
Refer to "When the Y signal doesn't appear on the screen in PB Mode".
YES
Replace the IC501.

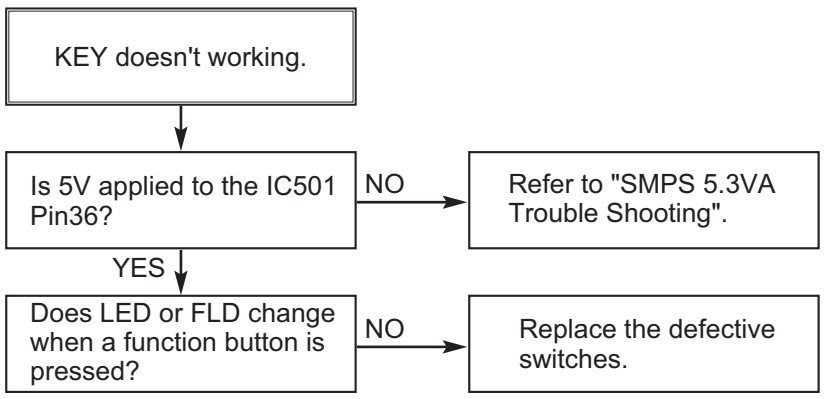
(2) When the Drum Motor doesn't run.


When the Drum Motor doesn't run,
YES
Does 12V appear at the PMC01 Pin8?
NO
Refer to "(2) No 12VA of Power section"
YES
Does 2.8V appear at the PMC01 Pin12?
NO
YES
Check the connector (PMC01) and the Drum Motor Ass'y.
Do the Drum PWM Pulses appear at the IC501 Pin34?
NO
Do the DFG Pulses appear at the PMC01 Pin11?
YES
NO
Replace the Cap M.
YES
Aren't the foil patterns and the Components between IC501 Pin34 and PMC01 Pin12 short?
YES
Do the DFG Pulses appear at the IC501 Pin104?
NO
Aren't the foil patterns and the Components between IC501 Pin 104 and PMC01 Pin11 short?
YES
Do the Drum PWM Pulses appear at the IC501 Pin34?
NO
Replace the IC501.
Aren't the connecting patterns and the Components between IC501 Pin34 and PMC01 Pin12 short?

(3) When the Capstan Motor doesn't run,

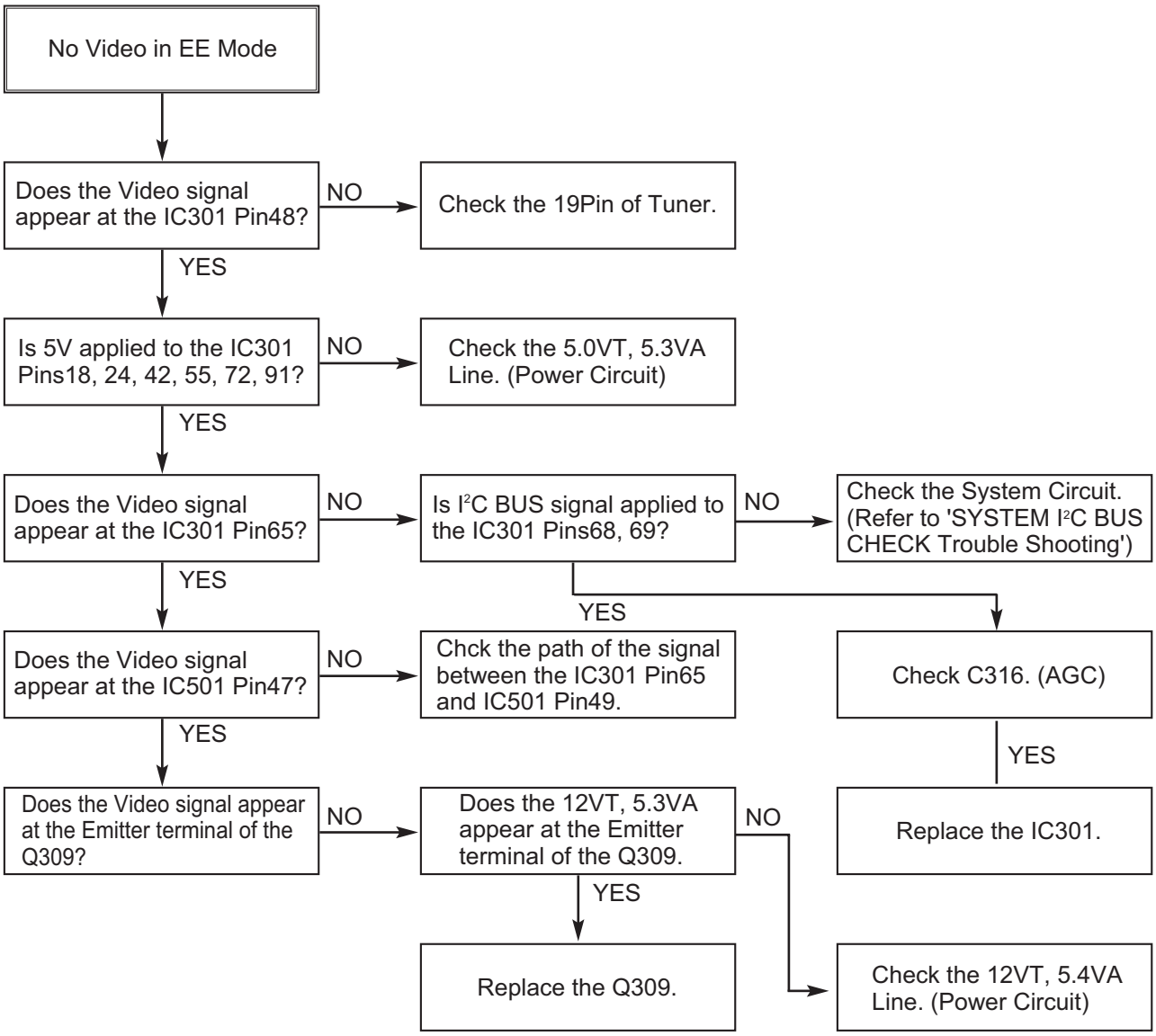

When the Capstan Motor doesn't run,
Does 12VA appear at the PMC01?
NO
Refer to "SMPS(CAPSTAN/12Volt) Trouble Shooting".
YES
Does 2.8V appear at the PMC01?
YES
NO
Check the PMC01 and the Capstan Motor Ass'y.
Does the PWM signal appear at the IC501 Pin33?
YES
NO
Aren't the foil patterns and Components between IC501 Pin33 and PMC01 Pin9 short?
Does the CFG signal appear at the PMC01 Pin1?
YES
NO
Does the CFG signal come into the IC501 Pin67?
Check the Capstan Motor Ass'y.
YES
NO
Does the Capstan PWM signal appear at the IC501 Pin33?
Aren't the foil patterns and component between IC501 Pin67 and PMC01 Pin1 short?
YES
NO
Aren't the foil patterns and Components between IC501 Pin33 and PMC01 Pin9 short?
Replace the IC501.

(4) KEY doesn't working

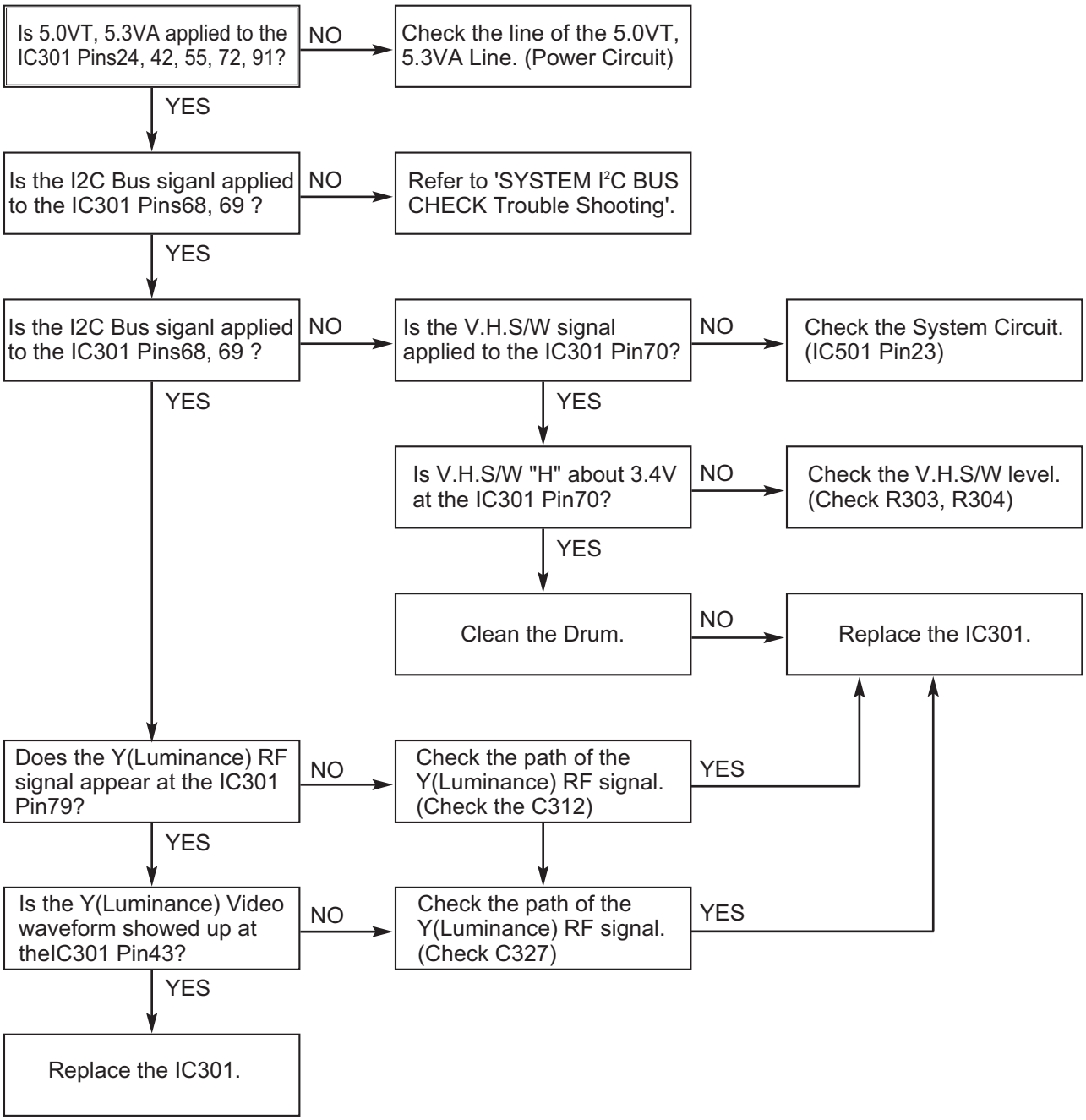

KEY doesn't working.
Is 5V applied to the IC501 Pin36?
NO
Refer to "SMPS 5.3VA Trouble Shooting".
YES
Does LED or FLD change when a function button is pressed?
NO
Replace the defective switches.

5.1.4 Y/C CIRCUIT

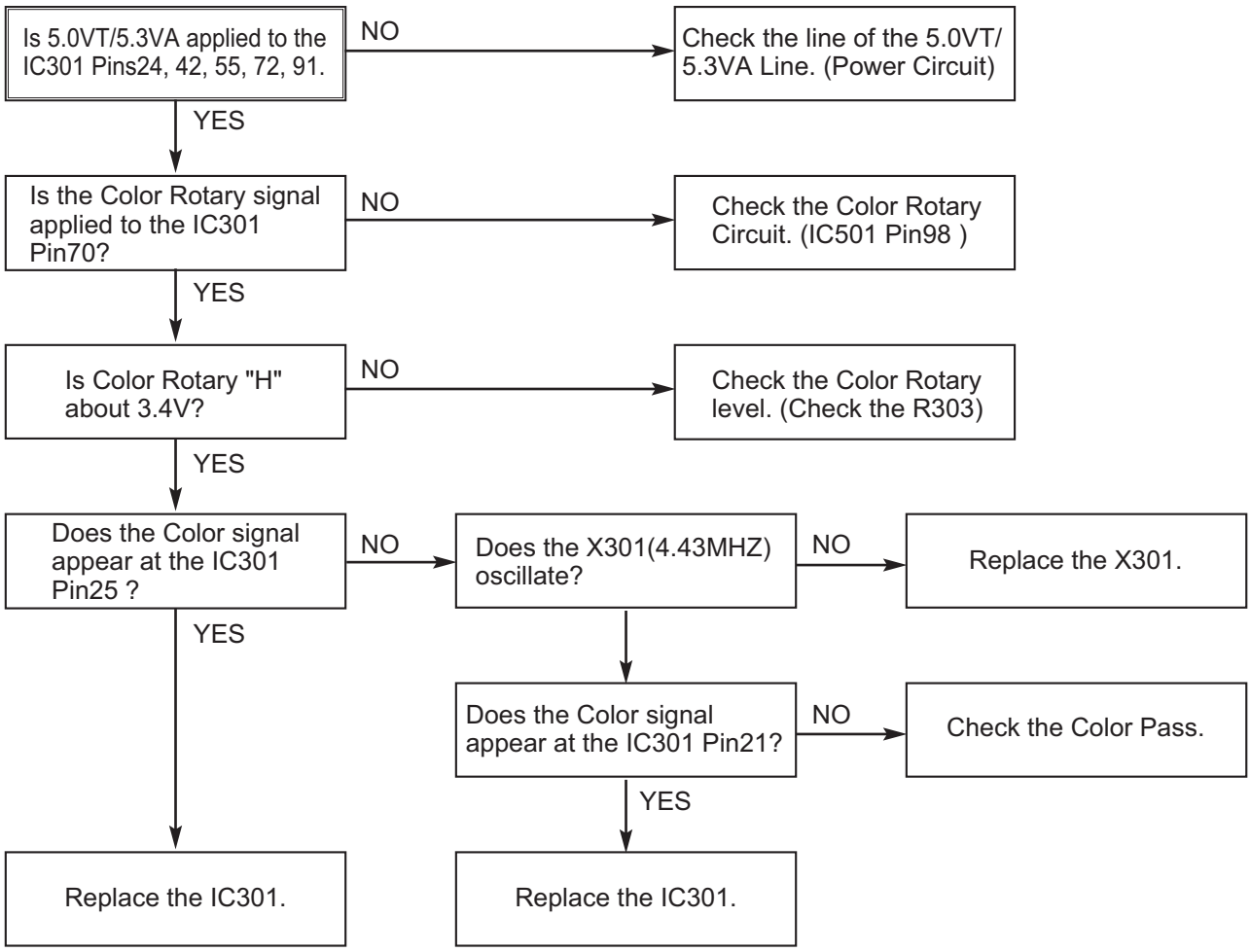
(1) No Video in EE Mode,


No Video in EE Mode
Does the Video signal appear at the IC301 Pin48?
NO
Check the 19Pin of Tuner.
YES
Is 5V applied to the IC301 Pins18, 24, 42, 55, 72, 91?
NO
Check the 5.0VT, 5.3VA Line. (Power Circuit)
YES
Does the Video signal appear at the IC301 Pin65?
NO
Is I²C BUS signal applied to the IC301 Pins68, 69?
NO
Check the System Circuit. (Refer to 'SYSTEM I²C BUS CHECK Trouble Shooting')
YES
YES
Does the Video signal appear at the IC501 Pin47?
NO
Chck the path of the signal between the IC301 Pin65 and IC501 Pin49.
Check C316. (AGC)
YES
YES
Does the Video signal appear at the Emitter terminal of the Q309?
NO
Does the 12VT, 5.3VA appear at the Emitter terminal of the Q309.
NO
Replace the IC301.
YES
Replace the Q309.
Check the 12VT, 5.4VA Line. (Power Circuit)

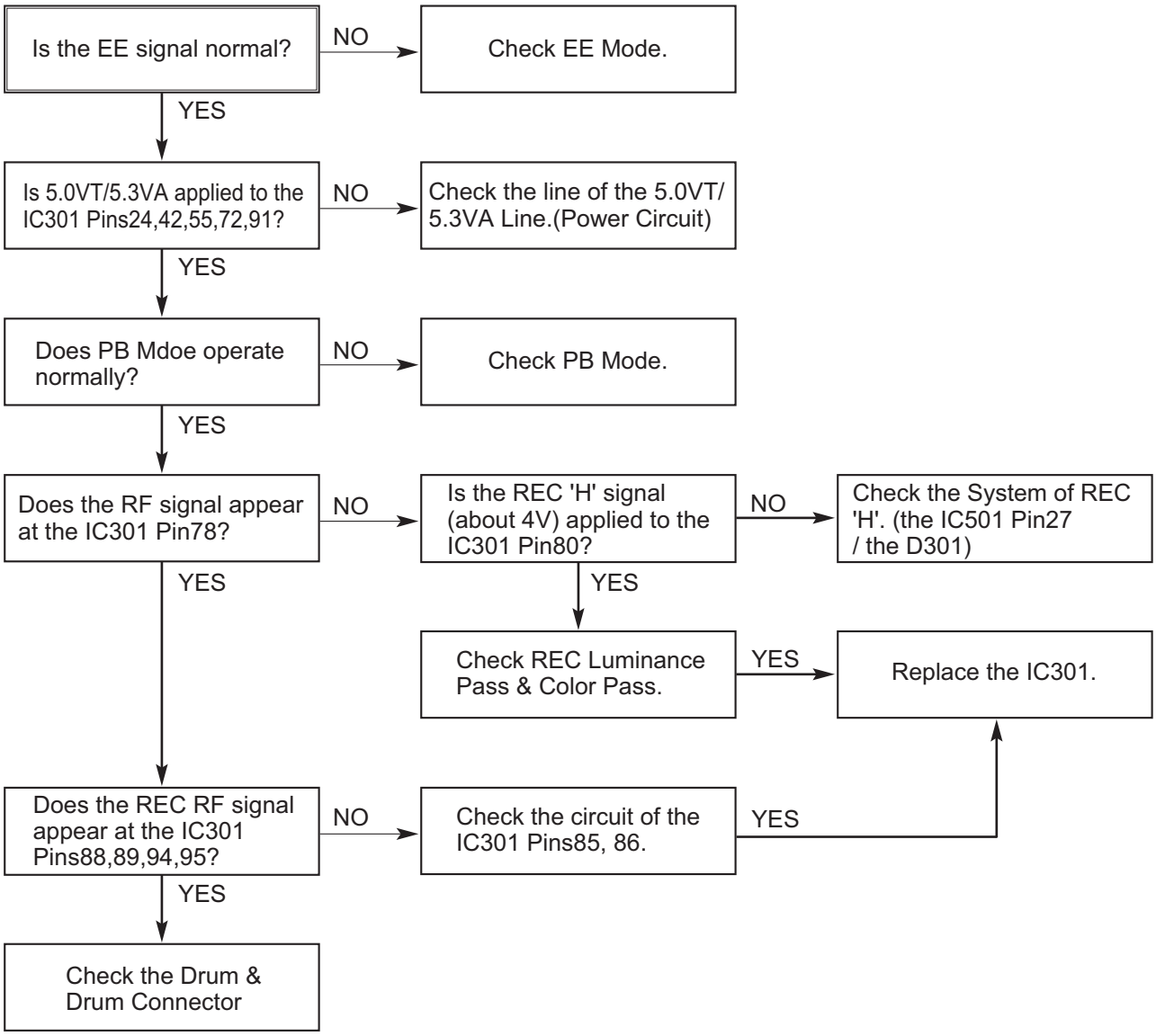
(2) When the Y(Luminance) signal doesn't appear on the screen in PB Mode,


Is 5.0VT, 5.3VA applied to the IC301 Pins24, 42, 55, 72, 91?
NO
Check the line of the 5.0VT, 5.3VA Line. (Power Circuit)
YES
Is the I2C Bus siganl applied to the IC301 Pins68, 69 ?
NO
Refer to 'SYSTEM I²C BUS CHECK Trouble Shooting'.
YES
Is the I2C Bus siganl applied to the IC301 Pins68, 69 ?
NO
Is the V.H.S/W signal applied to the IC301 Pin70?
NO
Check the System Circuit. (IC501 Pin23)
YES
YES
Is V.H.S/W "H" about 3.4V at the IC301 Pin70?
NO
Check the V.H.S/W level. (Check R303, R304)
YES
Clean the Drum.
NO
Replace the IC301.
Does the Y(Luminance) RF signal appear at the IC301 Pin79?
NO
Check the path of the Y(Luminance) RF signal. (Check the C312)
YES
YES
Is the Y(Luminance) Video waveform showed up at theIC301 Pin43?
NO
Check the path of the Y(Luminance) RF signal. (Check C327)
YES
YES
Replace the IC301.

(3) When the C(Color) signal doesn't appear on the screen in PB Mode,

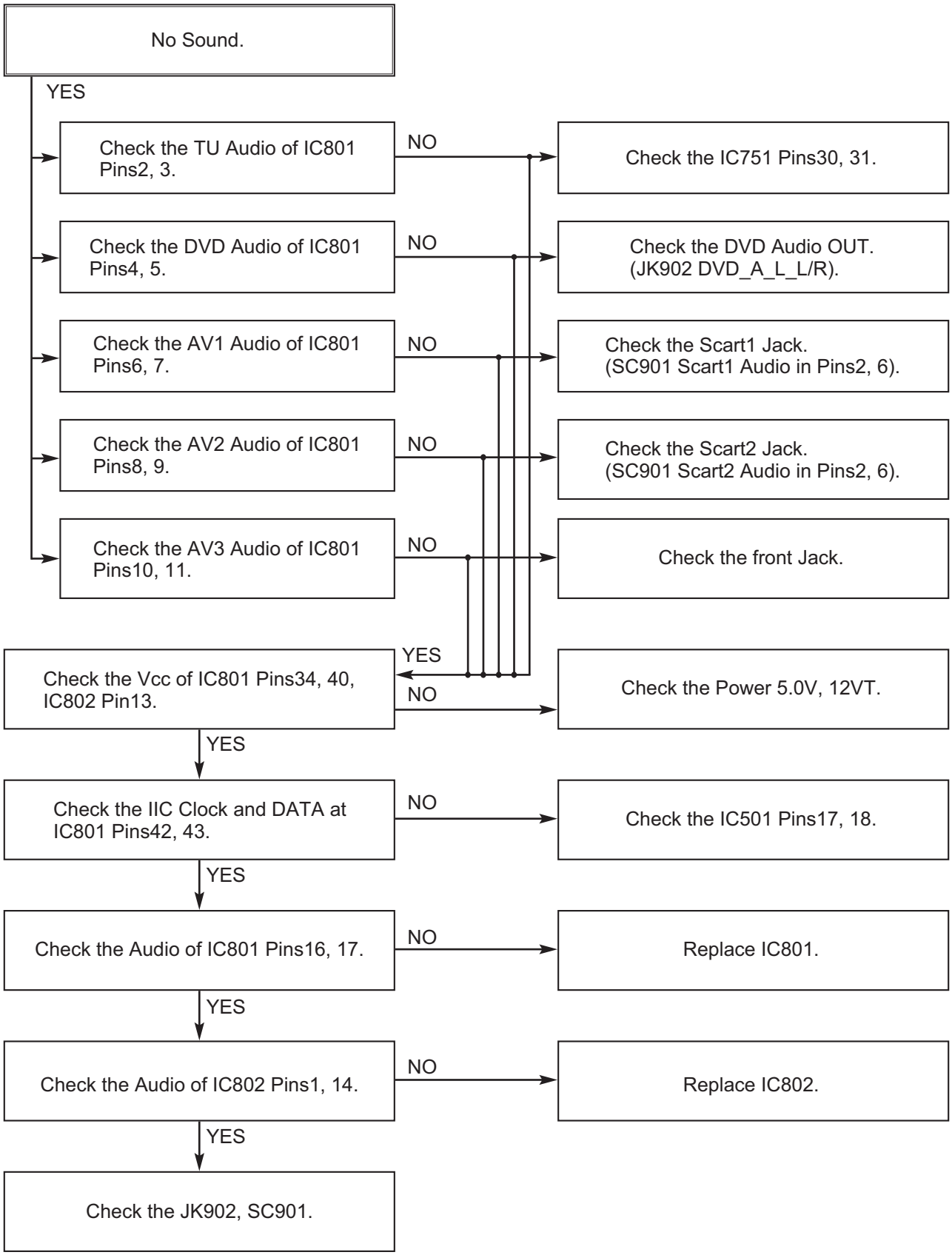

Is 5.0VT/5.3VA applied to the IC301 Pins24, 42, 55, 72, 91.
NO
Check the line of the 5.0VT/ 5.3VA Line. (Power Circuit)
YES
Is the Color Rotary signal applied to the IC301 Pin70?
NO
Check the Color Rotary Circuit. (IC501 Pin98)
YES
Is Color Rotary "H" about 3.4V?
NO
Check the Color Rotary level. (Check the R303)
YES
Does the Color signal appear at the IC301 Pin25 ?
NO
Does the X301(4.43MHZ) oscillate?
NO
Replace the X301.
YES
Does the Color signal appear at the IC301 Pin21?
NO
Check the Color Pass.
YES
Replace the IC301.
Replace the IC301.

(4) When the Video signal doesn't appear on the screen in REC Mode,

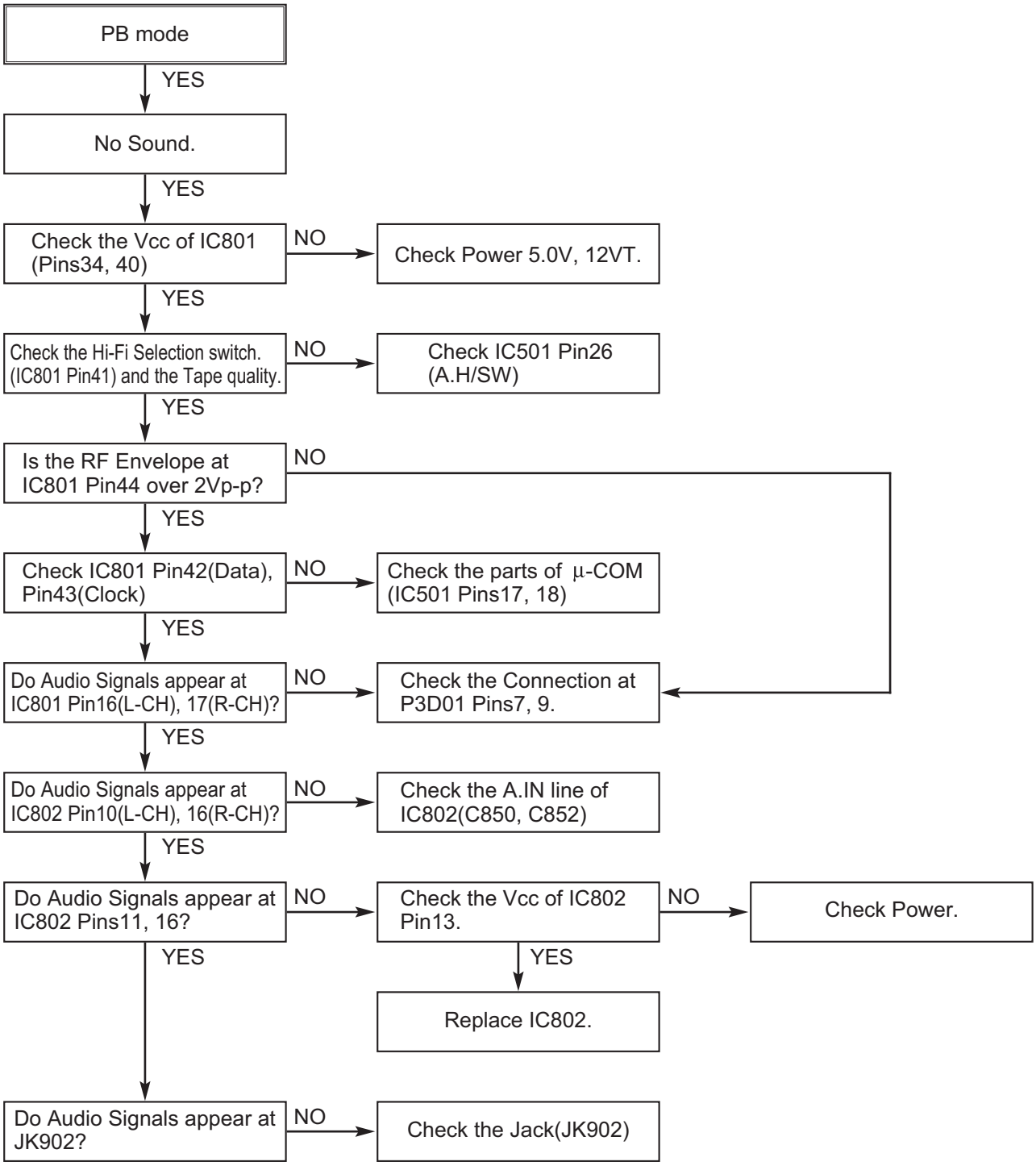

Is the EE signal normal?
NO
Check EE Mode.
YES
Is 5.0VT/5.3VA applied to the IC301 Pins24,42,55,72,91?
NO
Check the line of the 5.0VT/ 5.3VA Line.(Power Circuit)
YES
Does PB Mdoe operate normally?
NO
Check PB Mode.
YES
Does the RF signal appear at the IC301 Pin78?
NO
Is the REC 'H' signal (about 4V) applied to the IC301 Pin80?
NO
Check the System of REC 'H'. (the IC501 Pin27 / the D301)
YES
YES
Check REC Luminance Pass & Color Pass.
YES
Replace the IC301.
Does the REC RF signal appear at the IC301 Pins88,89,94,95?
NO
Check the circuit of the IC301 Pins85, 86.
YES
YES
Check the Drum & Drum Connector

5.1.5 Hi-Fi CIRCUIT

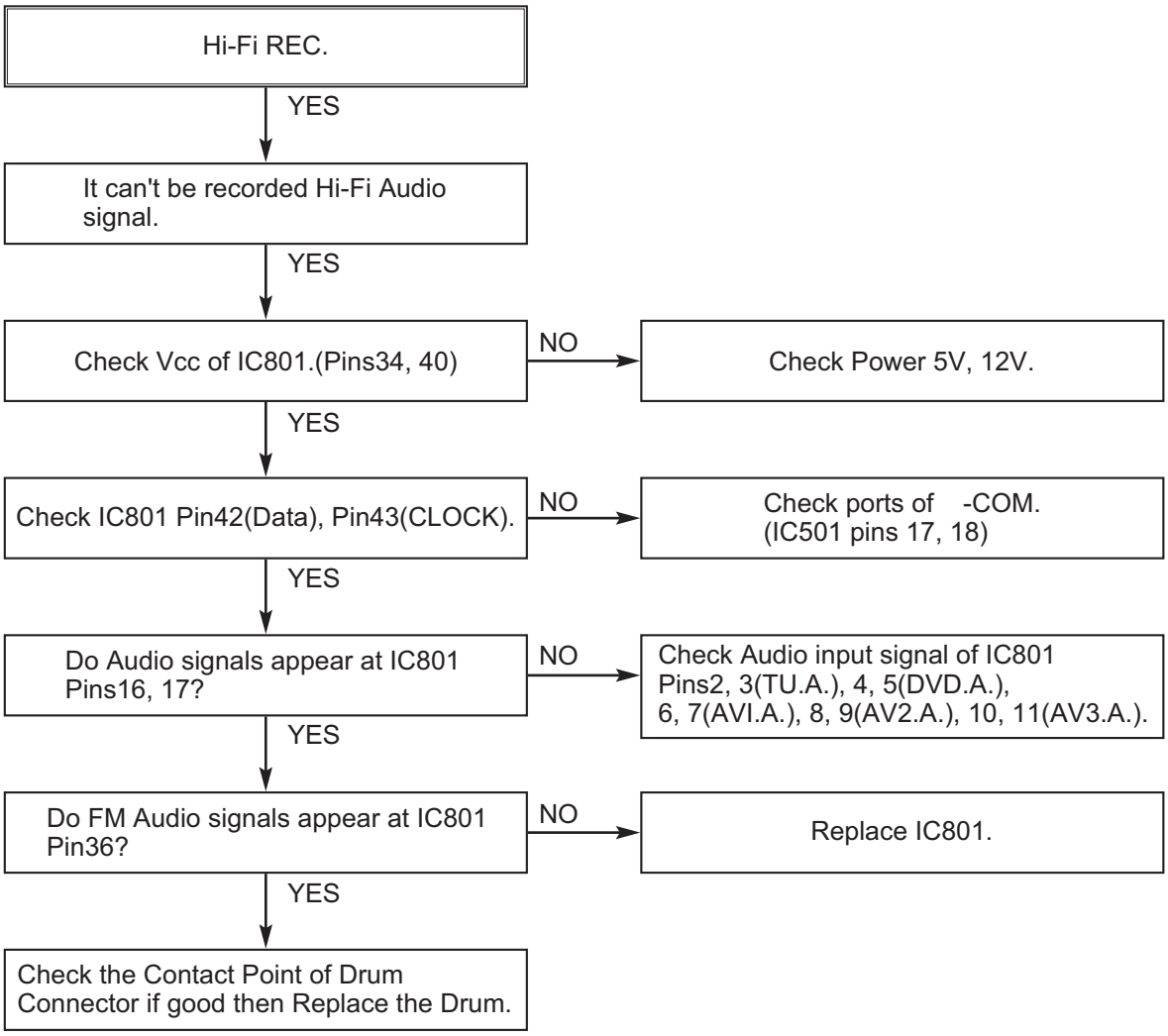
(A) No Sound(EE Mode)


No Sound.
YES
Check the TU Audio of IC801 Pins2, 3.
NO
Check the IC751 Pins30, 31.
Check the DVD Audio of IC801 Pins4, 5.
NO
Check the DVD Audio OUT. (JK902 DVD_A_L_L/R).
Check the AV1 Audio of IC801 Pins6, 7.
NO
Check the Scart1 Jack. (SC901 Scart1 Audio in Pins2, 6).
Check the AV2 Audio of IC801 Pins8, 9.
NO
Check the Scart2 Jack. (SC901 Scart2 Audio in Pins2, 6).
Check the AV3 Audio of IC801 Pins10, 11.
NO
Check the front Jack.
Check the Vcc of IC801 Pins34, 40, IC802 Pin13.
YES
NO
Check the Power 5.0V, 12VT.
YES
Check the IIC Clock and DATA at IC801 Pins42, 43.
NO
Check the IC501 Pins17, 18.
YES
Check the Audio of IC801 Pins16, 17.
NO
Replace IC801.
YES
Check the Audio of IC802 Pins1, 14.
NO
Replace IC802.
YES
Check the JK902, SC901.

(B) Hi-Fi Playback

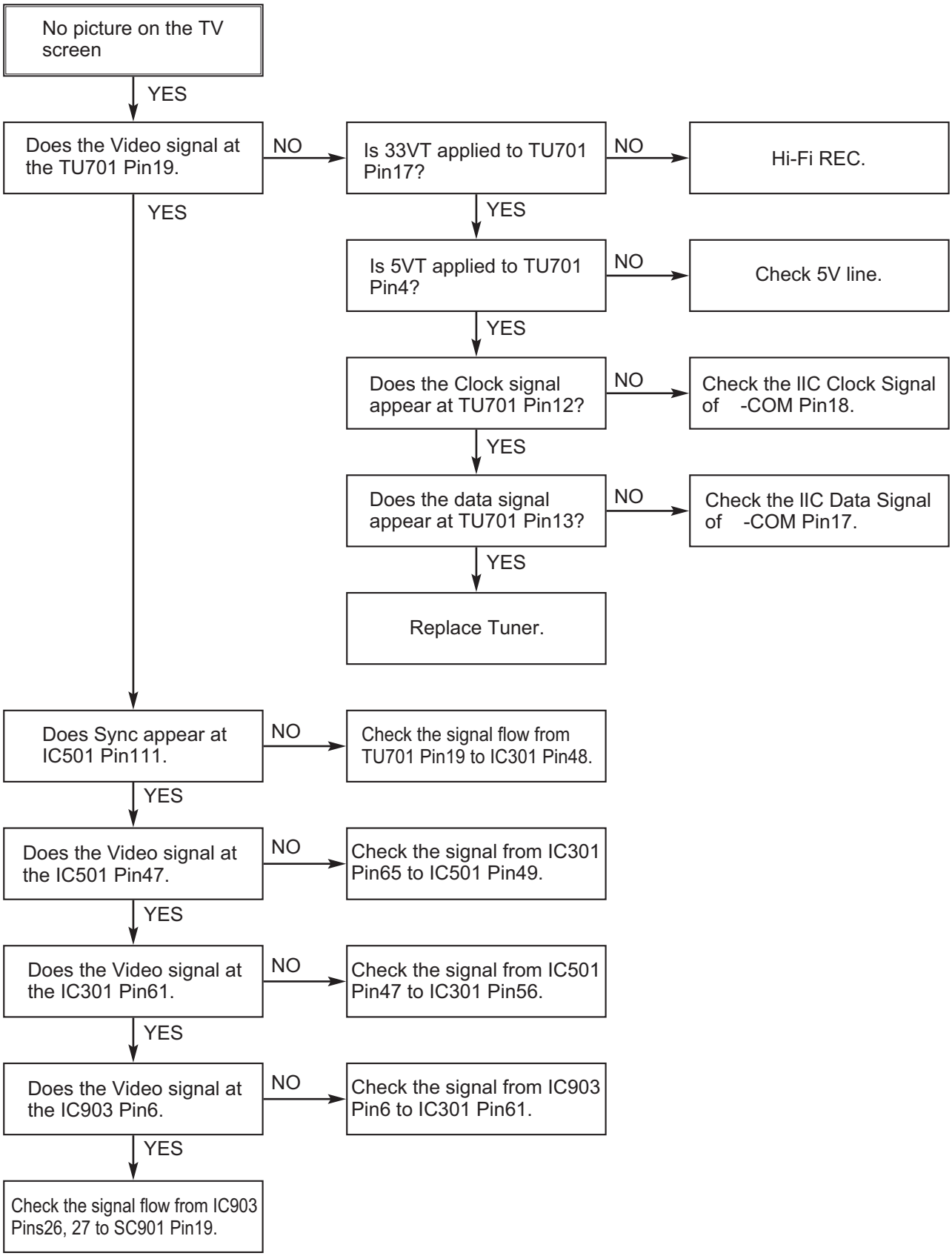


(C)

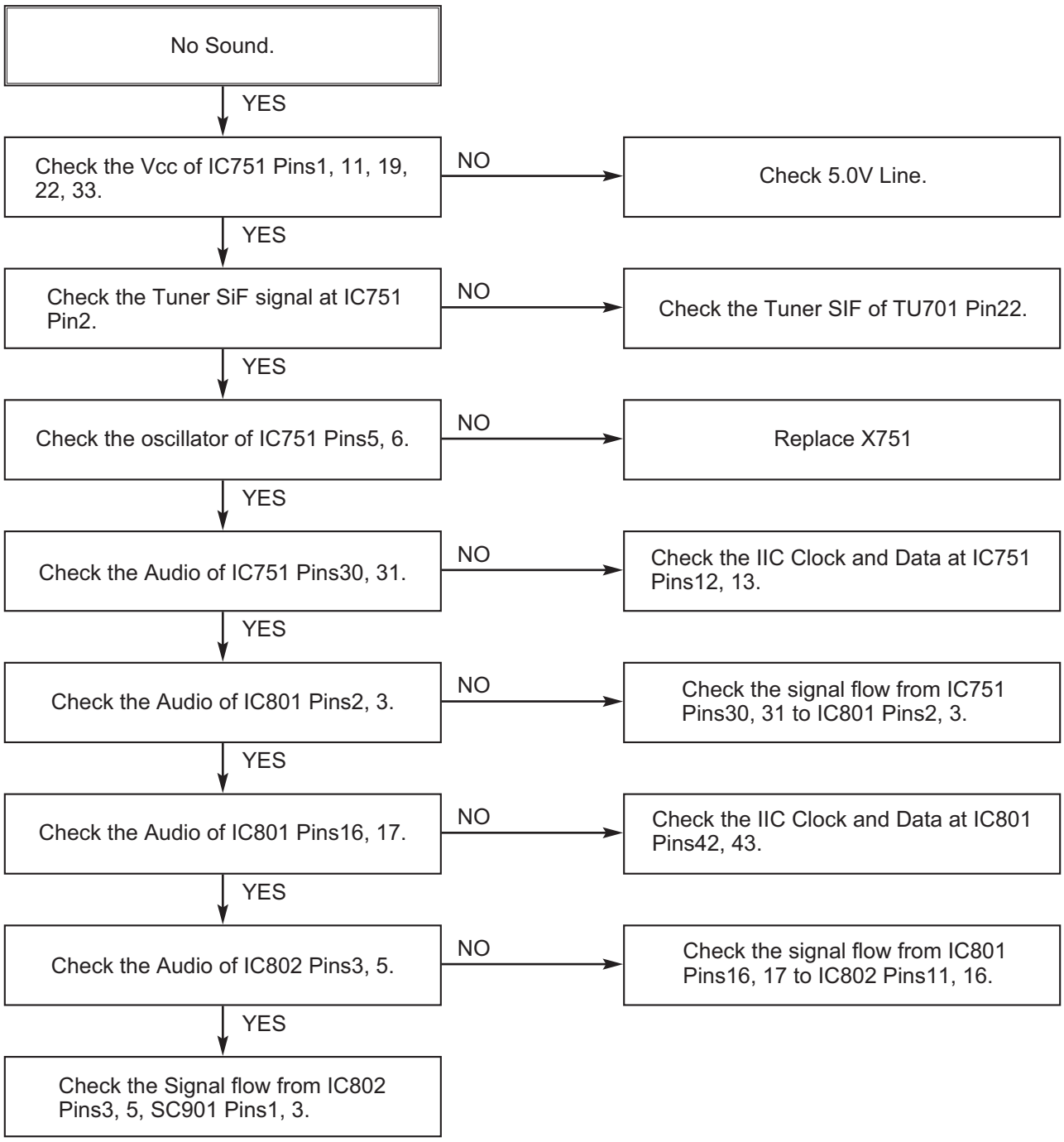

Hi-Fi REC.
YES
It can't be recorded Hi-Fi Audio signal.
YES
Check Vcc of IC801.(Pins34, 40)
NO
Check Power 5V, 12V.
YES
Check IC801 Pin42(Data), Pin43(CLOCK).
NO
Check ports of -COM. (IC501 pins 17, 18)
YES
Do Audio signals appear at IC801 Pins16, 17?
NO
Check Audio input signal of IC801 Pins2, 3(TU.A.), 4, 5(DVD.A.), 6, 7(AVI.A.), 8, 9(AV2.A.), 10, 11(AV3.A.).
YES
Do FM Audio signals appear at IC801 Pin36?
NO
Replace IC801.
YES
Check the Contact Point of Drum Connector if good then Replace the Drum.

5.1.6 Tuner/IF CIRCUIT

(A) No Picture on the TV screen


No picture on the TV screen
YES
Does the Video signal at the TU701 Pin19.
NO
Is 33VT applied to TU701 Pin17?
NO
Hi-Fi REC.
YES
YES
Is 5VT applied to TU701 Pin4?
NO
Check 5V line.
YES
Does the Clock signal appear at TU701 Pin12?
NO
Check the IIC Clock Signal of -COM Pin18.
YES
Does the data signal appear at TU701 Pin13?
NO
Check the IIC Data Signal of -COM Pin17.
YES
Replace Tuner.
YES
Does Sync appear at IC501 Pin111.
NO
Check the signal flow from TU701 Pin19 to IC301 Pin48.
YES
Does the Video signal at the IC501 Pin47.
NO
Check the signal from IC301 Pin65 to IC501 Pin49.
YES
Does the Video signal at the IC301 Pin61.
NO
Check the signal from IC501 Pin47 to IC301 Pin56.
YES
Does the Video signal at the IC903 Pin6.
NO
Check the signal from IC903 Pin6 to IC301 Pin61.
YES
Check the signal flow from IC903 Pins26, 27 to SC901 Pin19.

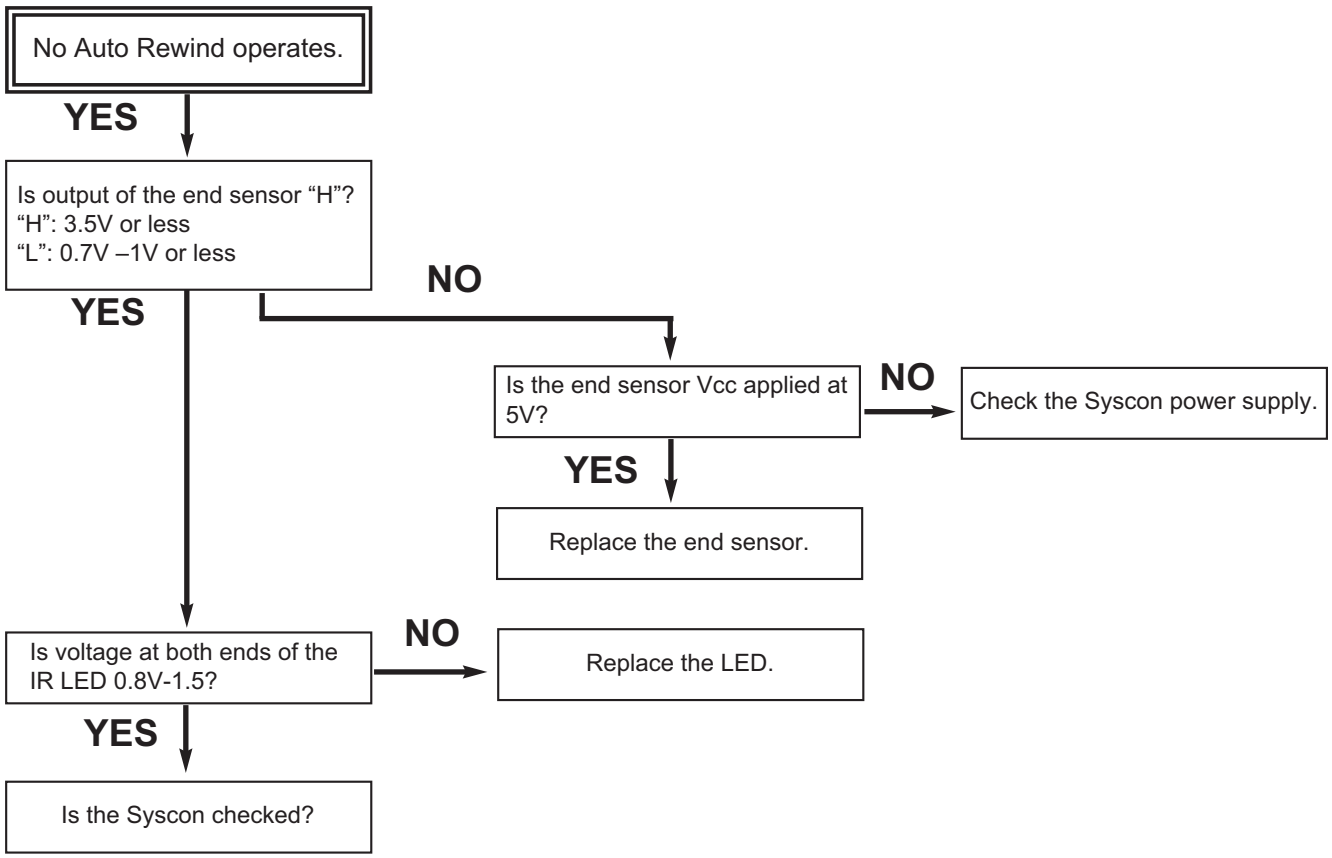
(B) No Sound


No Sound.
YES
Check the Vcc of IC751 Pins1, 11, 19, 22, 33.
NO
Check 5.0V Line.
YES
Check the Tuner SiF signal at IC751 Pin2.
NO
Check the Tuner SIF of TU701 Pin22.
YES
Check the oscillator of IC751 Pins5, 6.
NO
Replace X751
YES
Check the Audio of IC751 Pins30, 31.
NO
Check the IIC Clock and Data at IC751 Pins12, 13.
YES
Check the Audio of IC801 Pins2, 3.
NO
Check the signal flow from IC751 Pins30, 31 to IC801 Pins2, 3.
YES
Check the Audio of IC801 Pins16, 17.
NO
Check the IIC Clock and Data at IC801 Pins42, 43.
YES
Check the Audio of IC802 Pins3, 5.
NO
Check the signal flow from IC801 Pins16, 17 to IC802 Pins11, 16.
YES
Check the Signal flow from IC802 Pins3, 5, SC901 Pins1, 3.

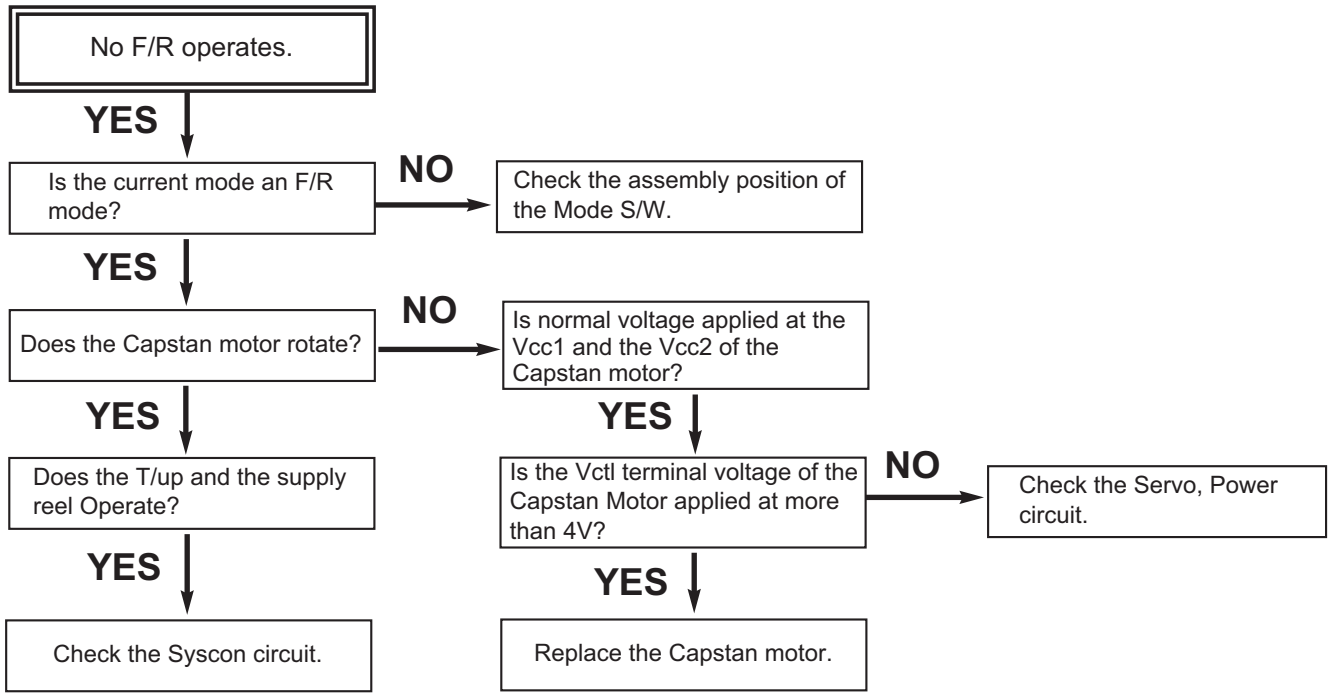
5.2 MECHANISM TROUBLESHOOTING GUIDE (VCR PART)

5.2.1 Deck Mechanism

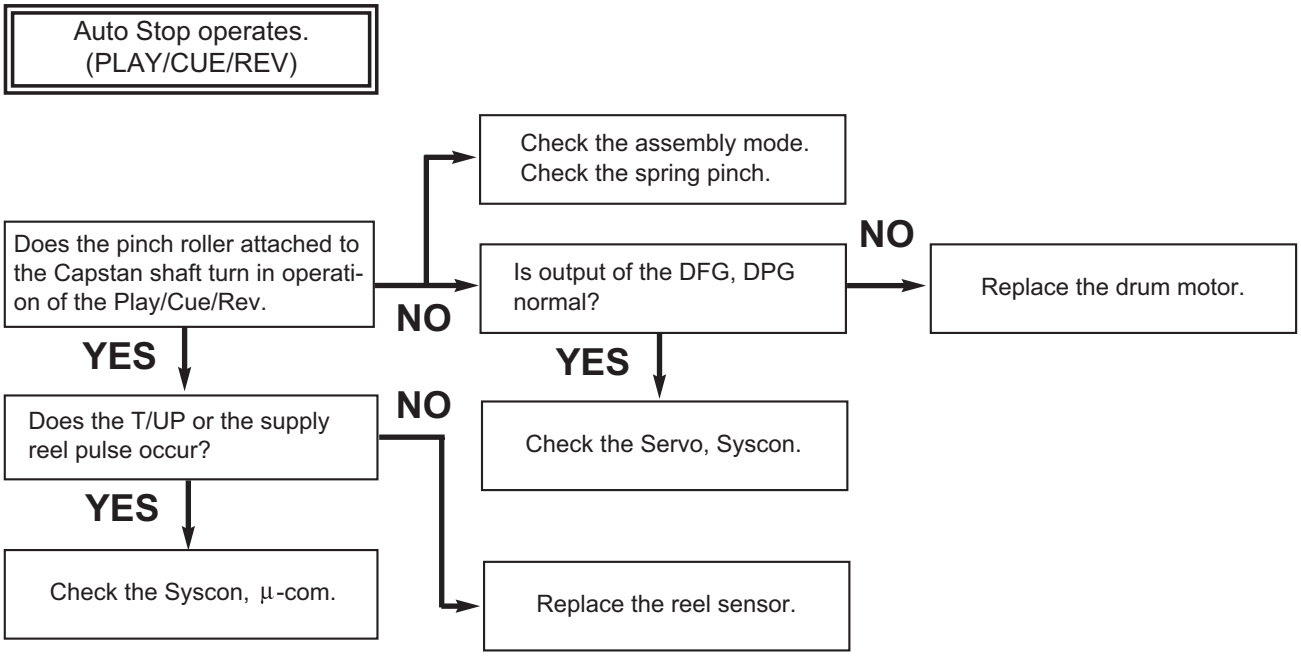
A.



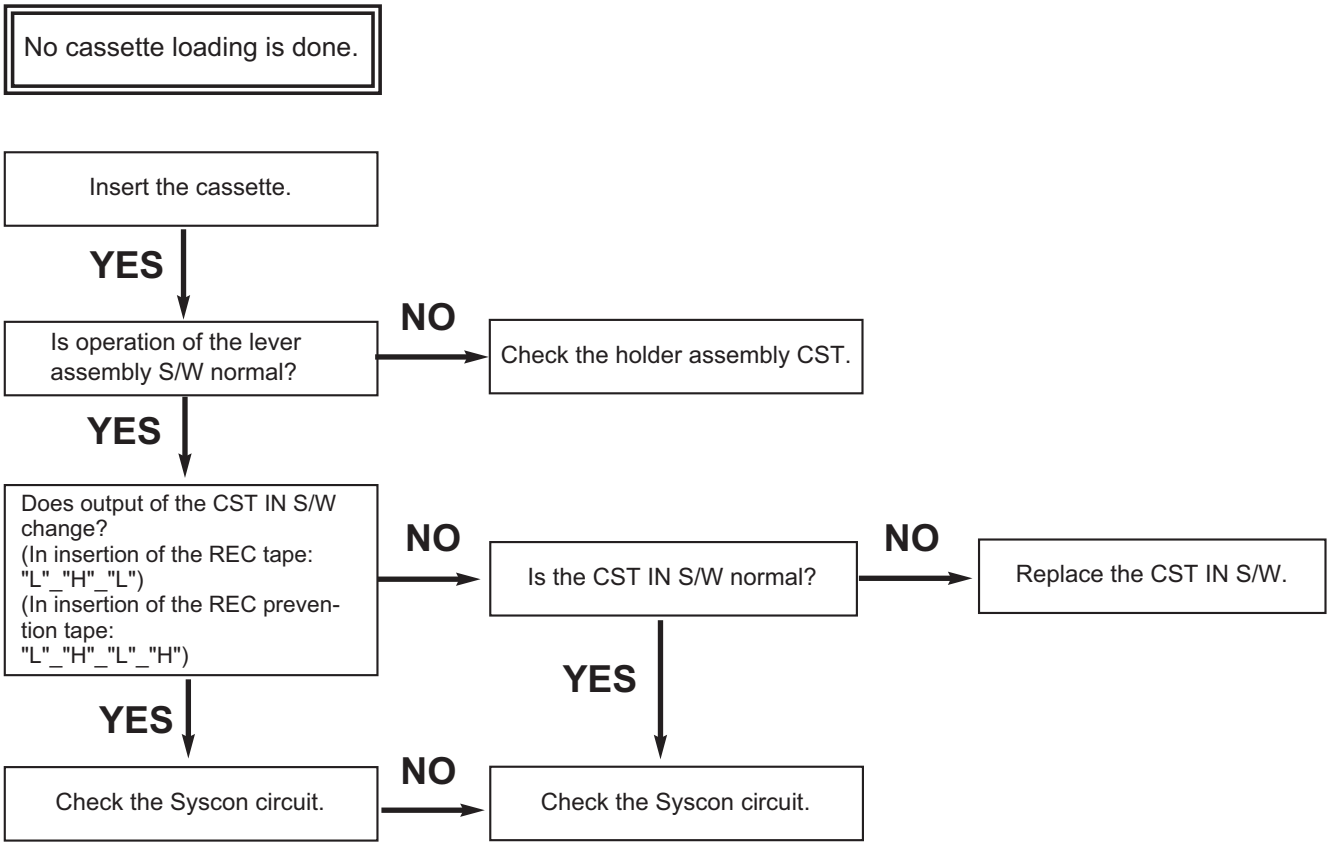
B.


No F/R operates.
YES
Is the current mode an F/R mode?
NO
Check the assembly position of the Mode S/W.
YES
Does the Capstan motor rotate?
NO
Is normal voltage applied at the Vcc1 and the Vcc2 of the Capstan motor?
YES
YES
Does the T/up and the supply reel Operate?
Is the Vctl terminal voltage of the Capstan Motor applied at more than 4V?
NO
Check the Servo, Power circuit.
YES
YES
Check the Syscon circuit.
Replace the Capstan motor.

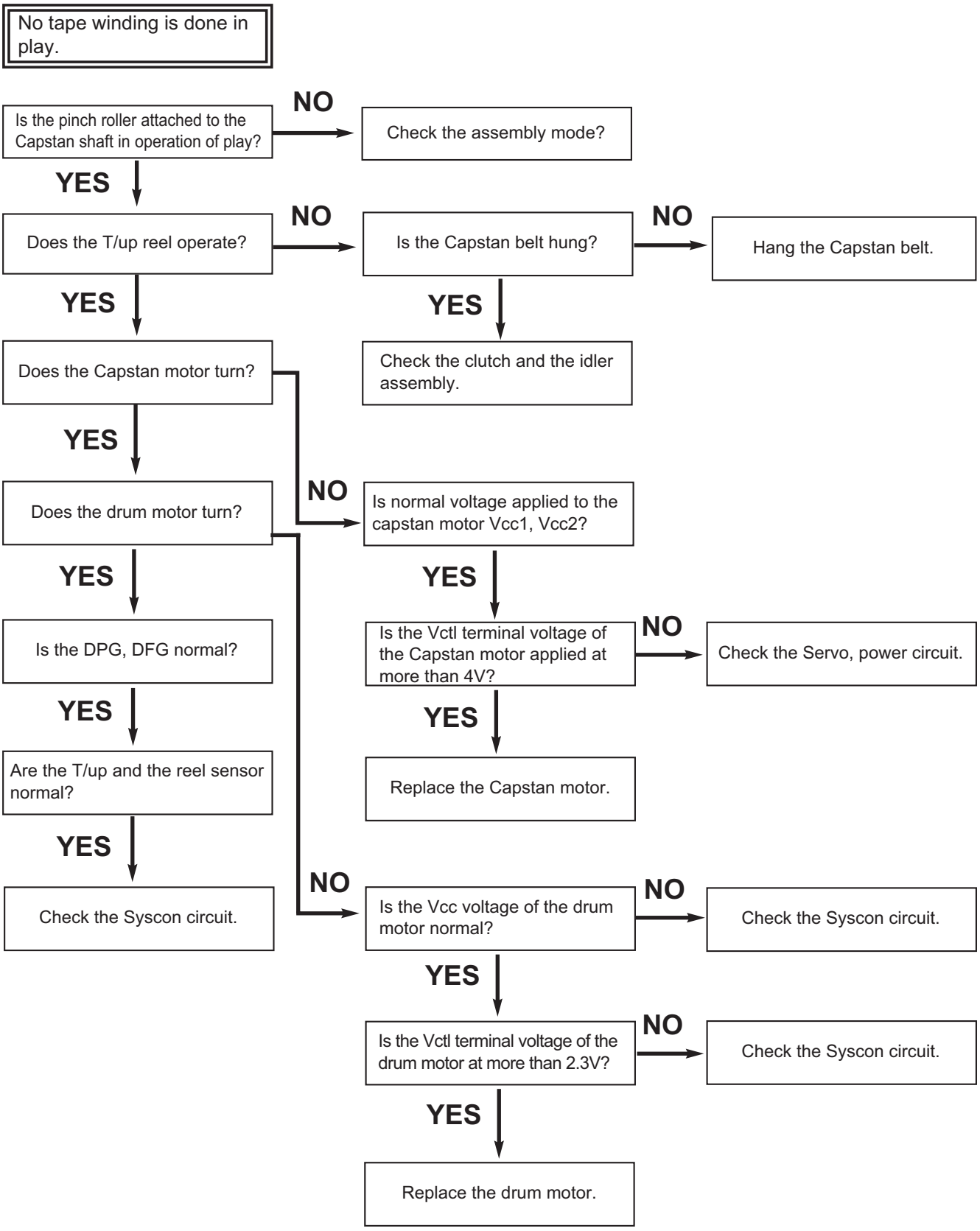
C.


Auto Stop operates.
(PLAY/CUE/REV)
Does the pinch roller attached to the Capstan shaft turn in operation of the Play/Cue/Rev.
Check the assembly mode.
Check the spring pinch.
NO
Is output of the DFG, DPG normal?
NO
Replace the drum motor.
YES
YES
Does the T/UP or the supply reel pulse occur?
NO
Check the Servo, Syscon.
YES
Check the Syscon, μ-com.
Replace the reel sensor.

D.

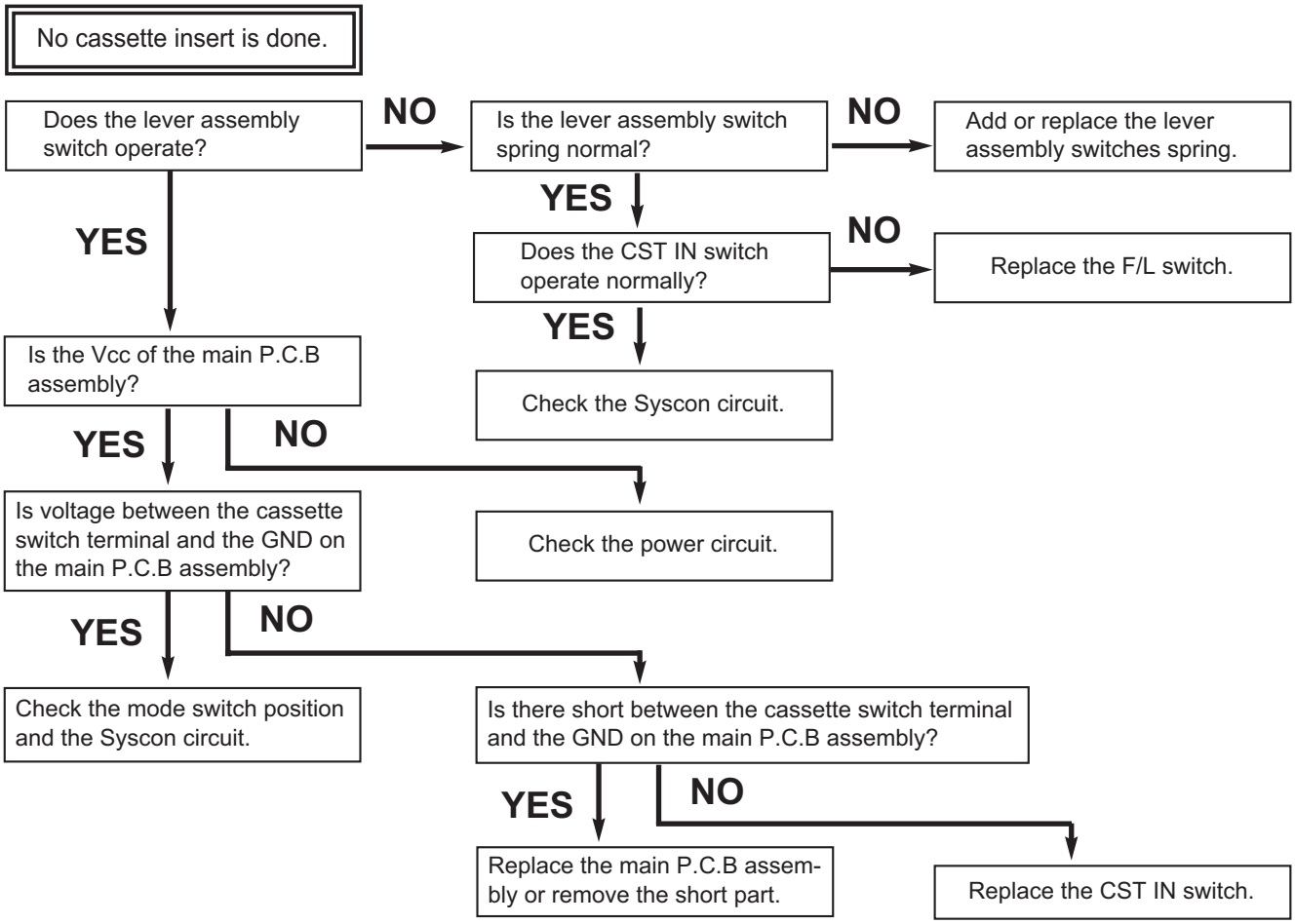

No cassette loading is done.
Insert the cassette.
YES
Is operation of the lever assembly S/W normal?
NO
Check the holder assembly CST.
YES
Does output of the CST IN S/W change?
(In insertion of the REC tape: "L"_"H"_"L")
(In insertion of the REC prevention tape: "L"_"H"_"L"_"H")
NO
Is the CST IN S/W normal?
NO
Replace the CST IN S/W.
YES
YES
Check the Syscon circuit.
NO
Check the Syscon circuit.

E.

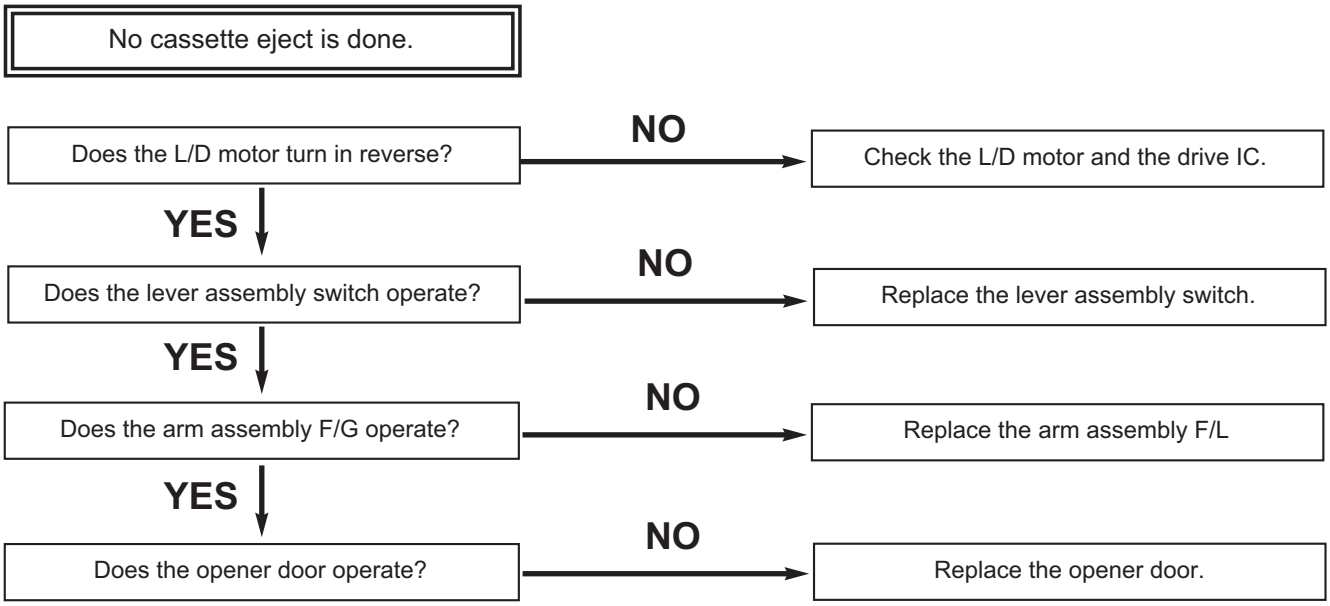

No tape winding is done in play.
Is the pinch roller attached to the Capstan shaft in operation of play?
NO
Check the assembly mode?
YES
Does the T/up reel operate?
NO
Is the Capstan belt hung?
NO
Hang the Capstan belt.
YES
YES
Check the clutch and the idler assembly.
Does the Capstan motor turn?
YES
Does the drum motor turn?
NO
Is normal voltage applied to the capstan motor Vcc1, Vcc2?
YES
YES
Is the DPG, DFG normal?
Is the Vctl terminal voltage of the Capstan motor applied at more than 4V?
NO
Check the Servo, power circuit.
YES
YES
Are the T/up and the reel sensor normal?
Replace the Capstan motor.
YES
NO
Check the Syscon circuit.
Is the Vcc voltage of the drum motor normal?
NO
Check the Syscon circuit.
YES
Is the Vctl terminal voltage of the drum motor at more than 2.3V?
NO
Check the Syscon circuit.
YES
Replace the drum motor.

5.2.2 Front Loading Mechanism

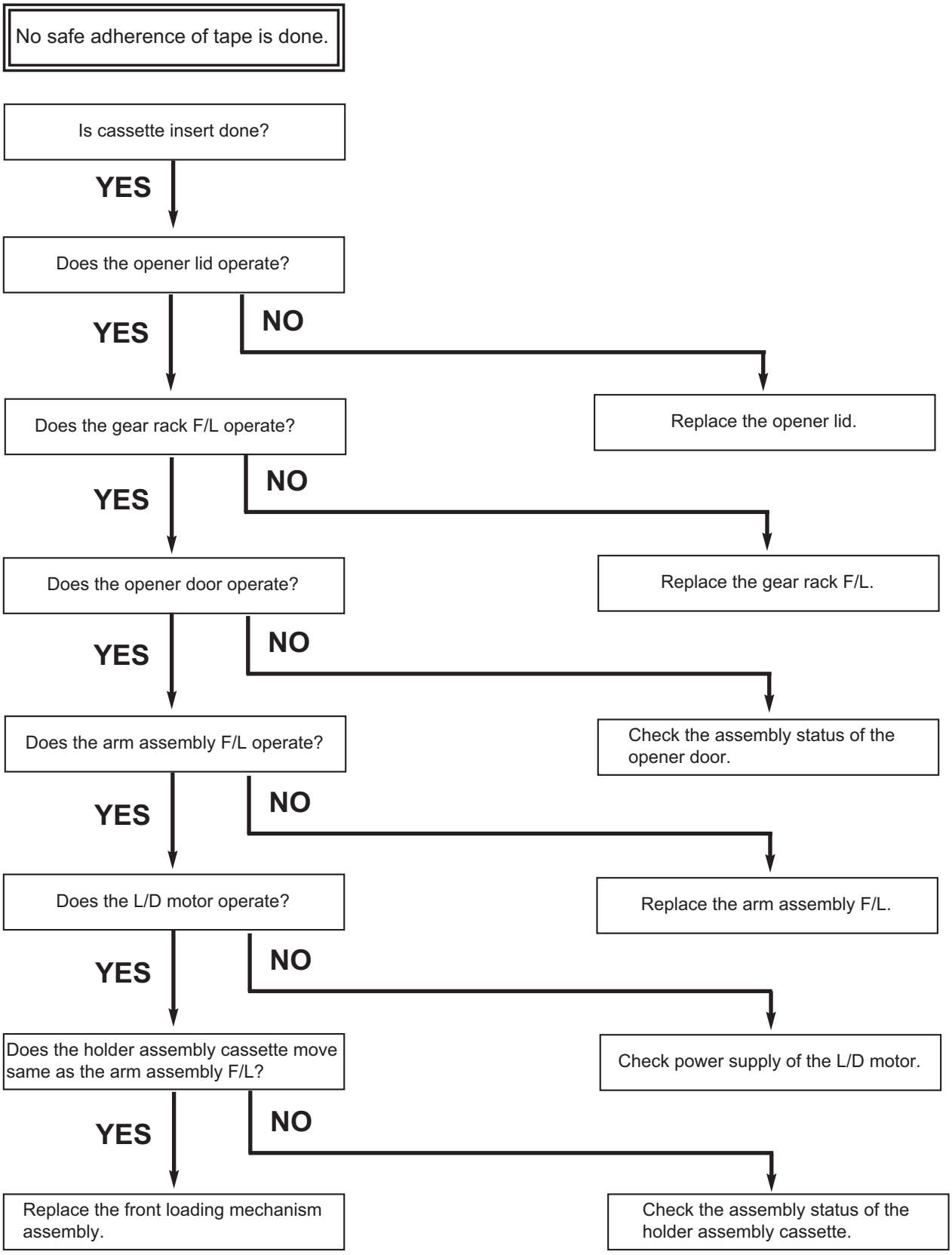
A.


No cassette insert is done.
Does the lever assembly switch operate?
NO
Is the lever assembly switch spring normal?
NO
Add or replace the lever assembly switches spring.
YES
YES
Does the CST IN switch operate normally?
NO
Replace the F/L switch.
YES
Check the Syscon circuit.
Is the Vcc of the main P.C.B assembly?
YES
NO
Check the power circuit.
Is voltage between the cassette switch terminal and the GND on the main P.C.B assembly?
YES
NO
Check the mode switch position and the Syscon circuit.
Is there short between the cassette switch terminal and the GND on the main P.C.B assembly?
YES
NO
Replace the main P.C.B assembly or remove the short part.
Replace the CST IN switch.

B.

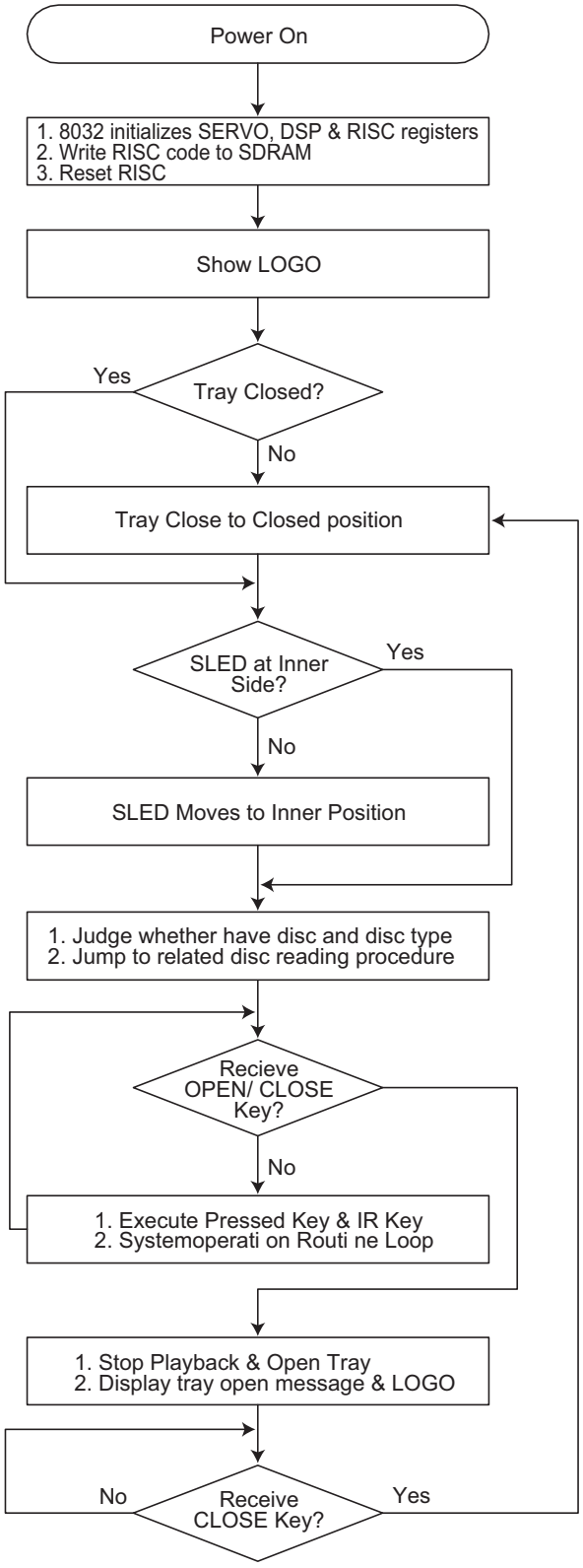


C.

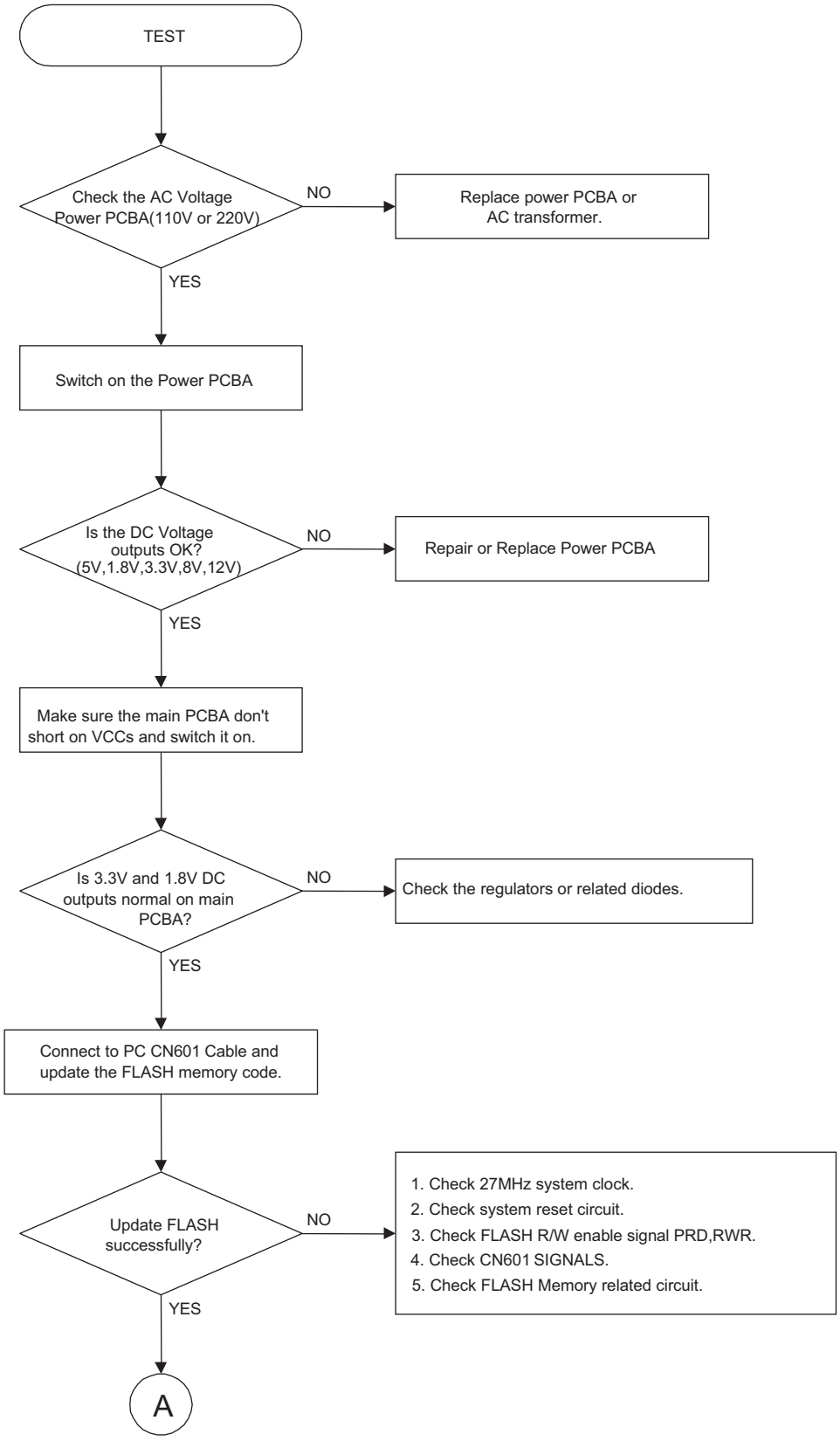

No safe adherence of tape is done.
Is cassette insert done?
YES
Does the opener lid operate?
YES
NO
Replace the opener lid.
Does the gear rack F/L operate?
YES
NO
Replace the gear rack F/L.
Does the opener door operate?
YES
NO
Check the assembly status of the opener door.
Does the arm assembly F/L operate?
YES
NO
Replace the arm assembly F/L.
Does the L/D motor operate?
YES
NO
Check power supply of the L/D motor.
Does the holder assembly cassette move same as the arm assembly F/L?
YES
NO
Check the assembly status of the holder assembly cassette.
Replace the front loading mechanism assembly.

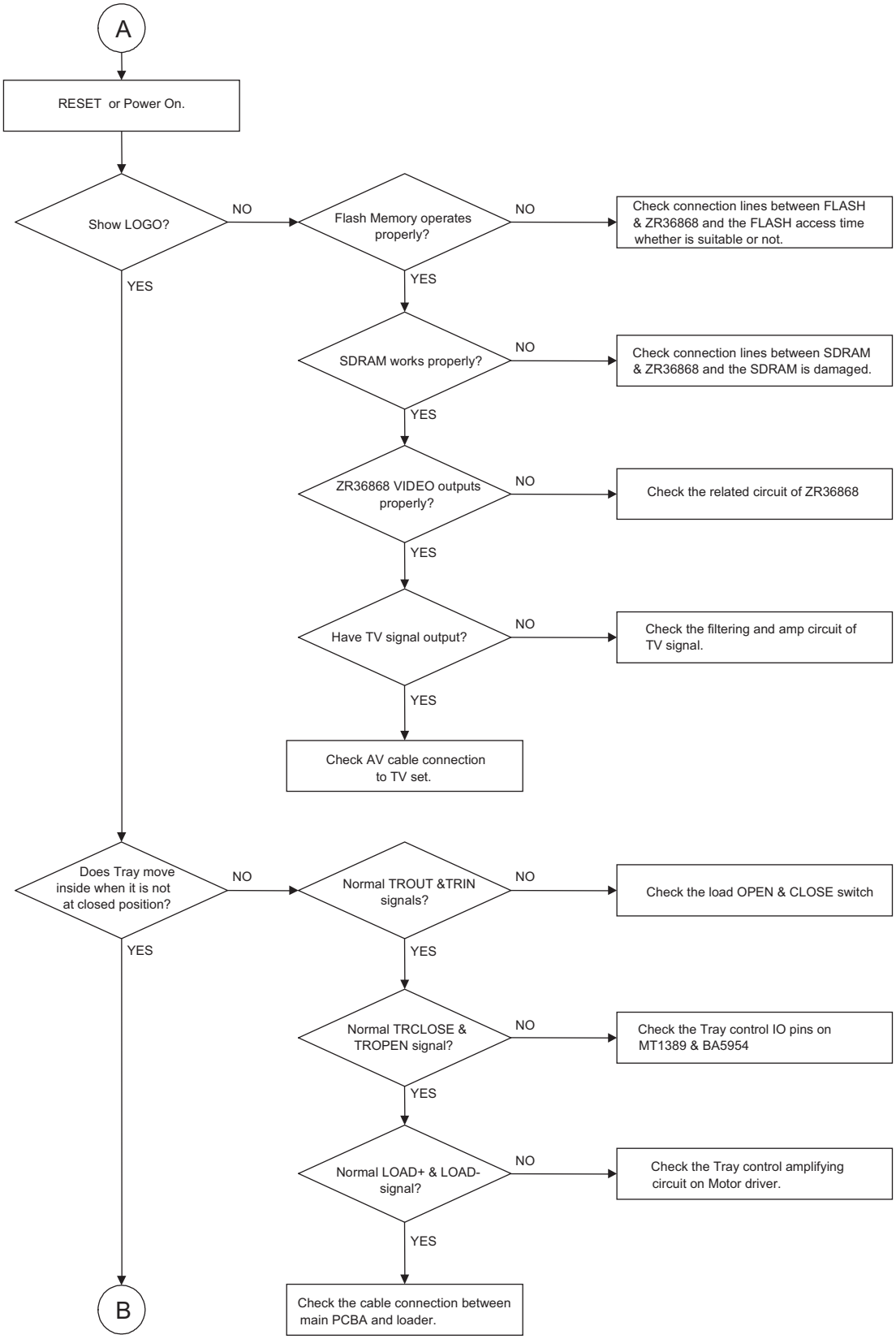
5.3 ELECTRICAL TROUBLESHOOTING GUIDE (DVD PART)

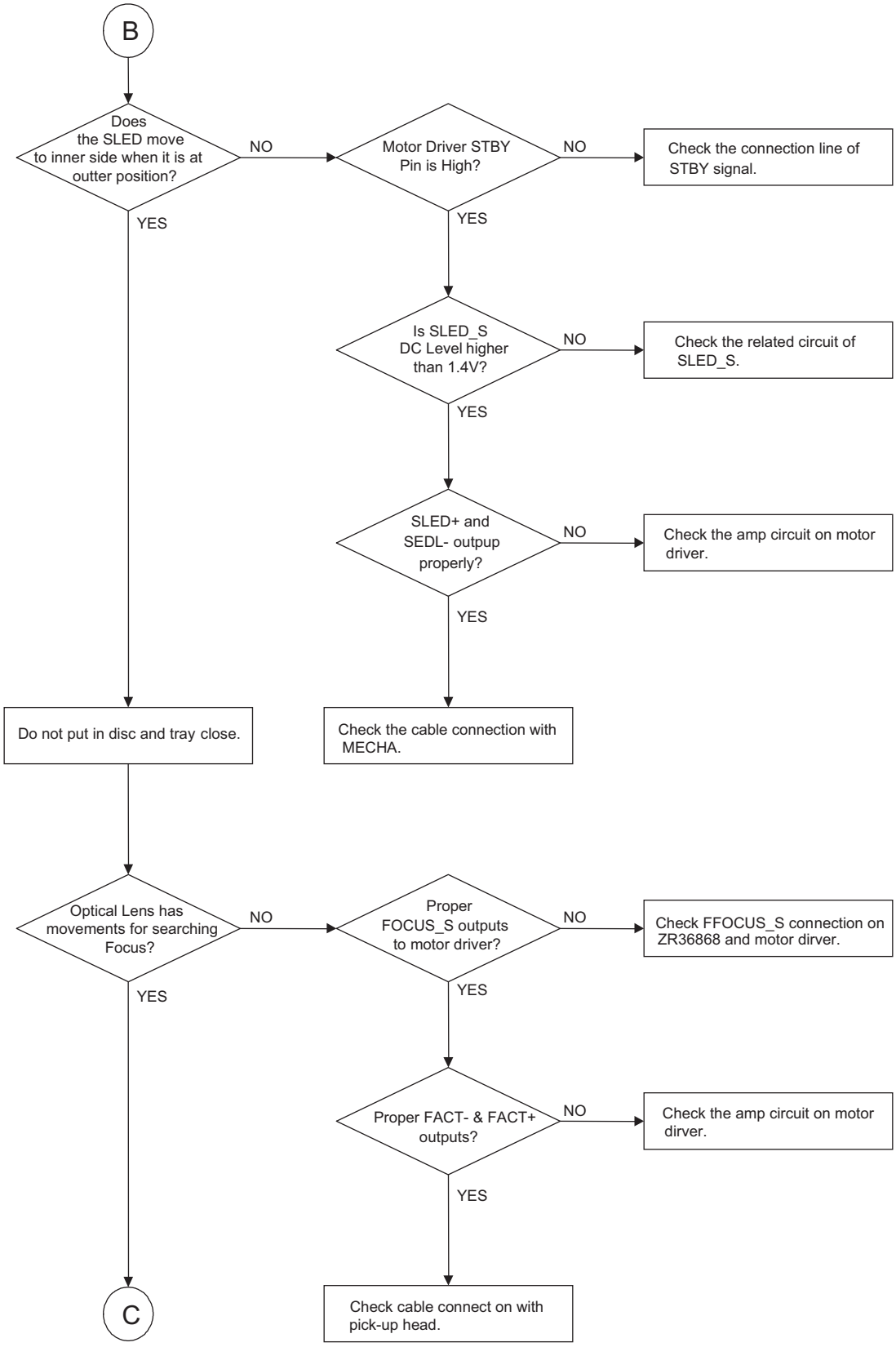
5.3.1 System operation flow

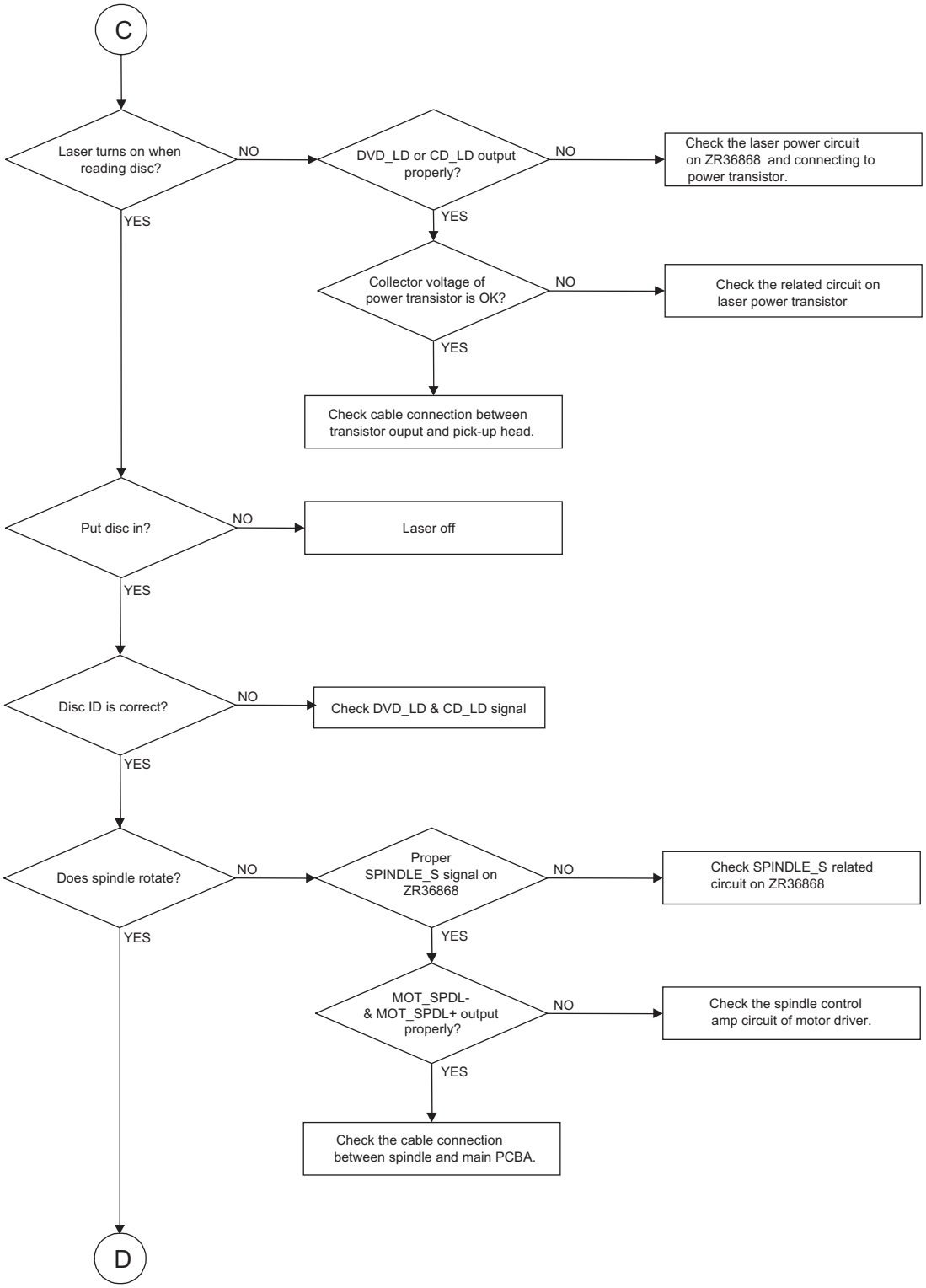


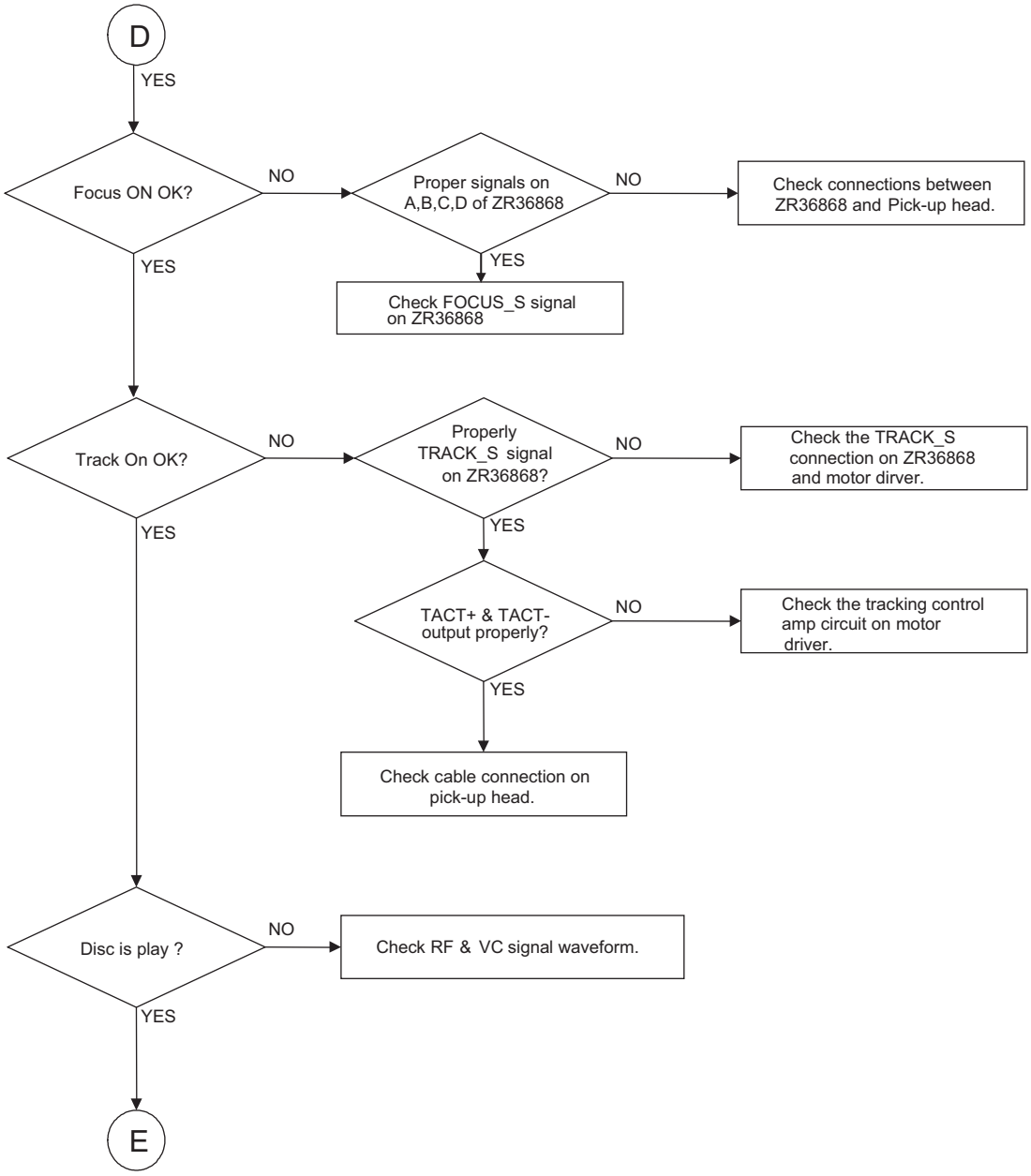
5.3.2 SYSTEM Test flow

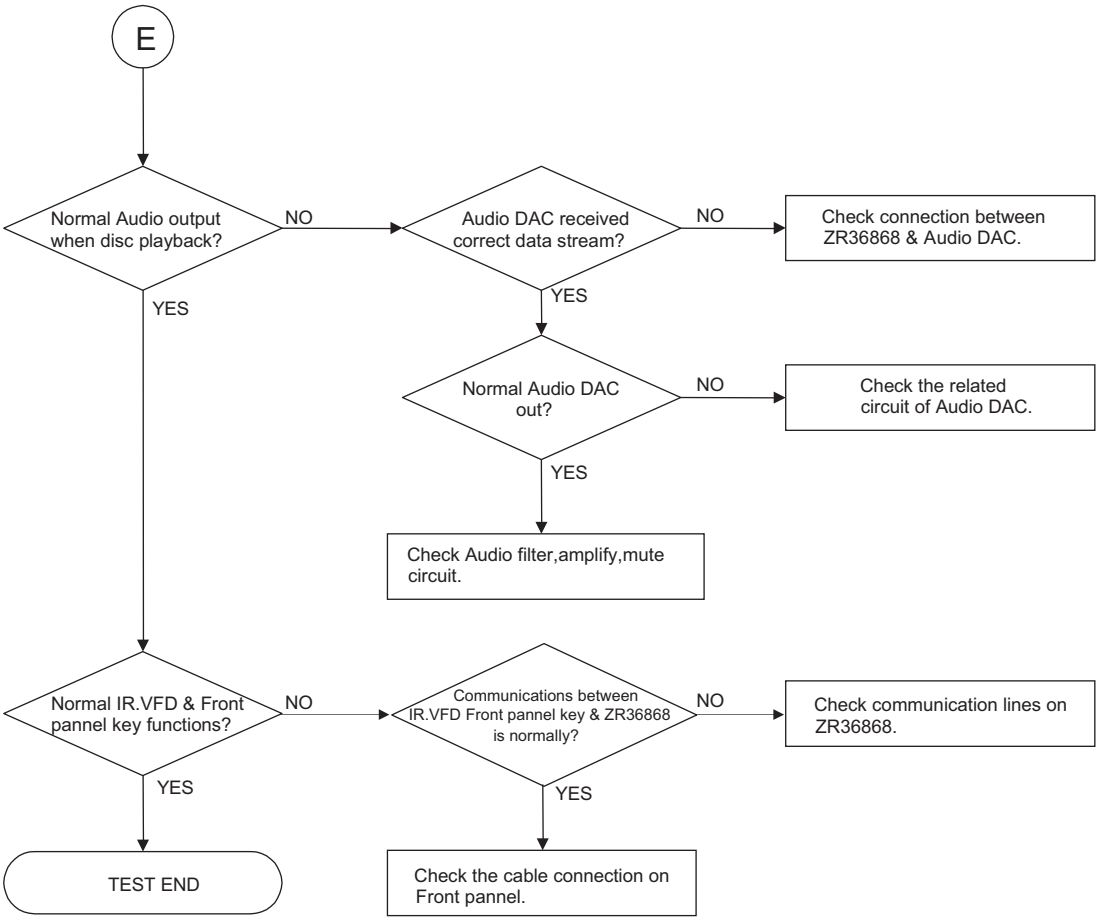

TEST
Check the AC Voltage Power PCBA(110V or 220V)
NO
Replace power PCBA or AC transformer.
YES
Switch on the Power PCBA
Is the DC Voltage outputs OK? (5V,1.8V,3.3V,8V,12V)
NO
Repair or Replace Power PCBA
YES
Make sure the main PCBA don't short on VCCs and switch it on.
Is 3.3V and 1.8V DC outputs normal on main PCBA?
NO
Check the regulators or related diodes.
YES
Connect to PC CN601 Cable and update the FLASH memory code.
Update FLASH successfully?
NO
1. Check 27MHz system clock.
2. Check system reset circuit.
3. Check FLASH R/W enable signal PRD,RWR.
4. Check CN601 SIGNALS.
5. Check FLASH Memory related circuit.
YES
A


A
RESET or Power On.
Show LOGO?
NO
YES
Flash Memory operates properly?
NO
Check connection lines between FLASH & ZR36868 and the FLASH access time whether is suitable or not.
YES
SDRAM works properly?
NO
Check connection lines between SDRAM & ZR36868 and the SDRAM is damaged.
YES
ZR36868 VIDEO outputs properly?
NO
Check the related circuit of ZR36868
YES
Have TV signal output?
NO
Check the filtering and amp circuit of TV signal.
YES
Check AV cable connection to TV set.
Does Tray move inside when it is not at closed position?
NO
YES
Normal TROUT &TRIN signals?
NO
Check the load OPEN & CLOSE switch
YES
Normal TRCLOSE & TROPEN signal?
NO
Check the Tray control IO pins on MT1389 & BA5954
YES
Normal LOAD+ & LOAD- signal?
NO
Check the Tray control amplifying circuit on Motor driver.
YES
Check the cable connection between main PCBA and loader.
B


B
Does the SLED move to inner side when it is at outter position?
NO
Motor Driver STBY Pin is High?
NO
Check the connection line of STBY signal.
YES
YES
Is SLED_S DC Level higher than 1.4V?
NO
Check the related circuit of SLED_S.
YES
SLED+ and SEDL- outpup properly?
NO
Check the amp circuit on motor driver.
YES
Do not put in disc and tray close.
Check the cable connection with MECHA.
Optical Lens has movements for searching Focus?
NO
Proper FOCUS_S outputs to motor driver?
NO
Check FFOCUS_S connection on ZR36868 and motor dirver.
YES
YES
Proper FACT- & FACT+ outputs?
NO
Check the amp circuit on motor dirver.
YES
C
Check cable connect on with pick-up head.


C
Laser turns on when reading disc?
NO
DVD_LD or CD_LD output properly?
NO
Check the laser power circuit on ZR36868 and connecting to power transistor.
YES
YES
Collector voltage of power transistor is OK?
NO
Check the related circuit on laser power transistor
YES
Check cable connection between transistor ouput and pick-up head.
Put disc in?
NO
Laser off
YES
Disc ID is correct?
NO
Check DVD_LD & CD_LD signal
YES
Does spindle rotate?
NO
Proper SPINDLE_S signal on ZR36868
NO
Check SPINDLE_S related circuit on ZR36868
YES
YES
MOT_SPDL- & MOT_SPDL+ output properly?
NO
Check the spindle control amp circuit of motor driver.
YES
Check the cable connection between spindle and main PCBA.
D

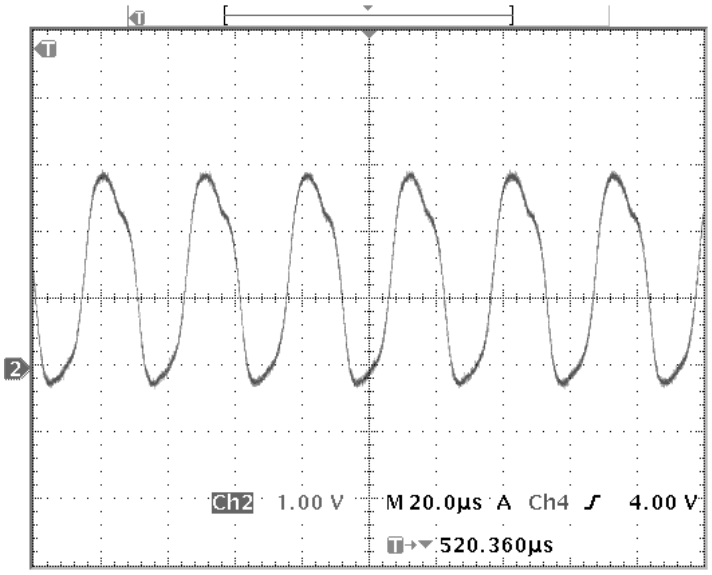

D
YES
Focus ON OK?
NO
Proper signals on A,B,C,D of ZR36868
NO
Check connections between ZR36868 and Pick-up head.
YES
YES
Check FOCUS_S signal on ZR36868
Track On OK?
NO
Properly TRACK_S signal on ZR36868?
NO
Check the TRACK_S connection on ZR36868 and motor dirver.
YES
YES
TACT+ & TACT- output properly?
NO
Check the tracking control amp circuit on motor driver.
YES
Check cable connection on pick-up head.
Disc is play ?
NO
Check RF & VC signal waveform.
YES
E


E
Normal Audio output when disc playback?
NO
Audio DAC received correct data stream?
NO
Check connection between ZR36868 & Audio DAC.
YES
YES
Normal Audio DAC out?
NO
Check the related circuit of Audio DAC.
YES
Check Audio filter,amplify,mute circuit.
Normal IR.VFD & Front pannel key functions?
NO
Communications between IR.VFD Front pannel key & ZR36868 is normally?
NO
Check communication lines on ZR36868.
YES
YES
TEST END
Check the cable connection on Front pannel.

5.4 DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

5.4.1 SYSTEM 27MHz CLOCK, RESET, FLASH R/W SIGNAL

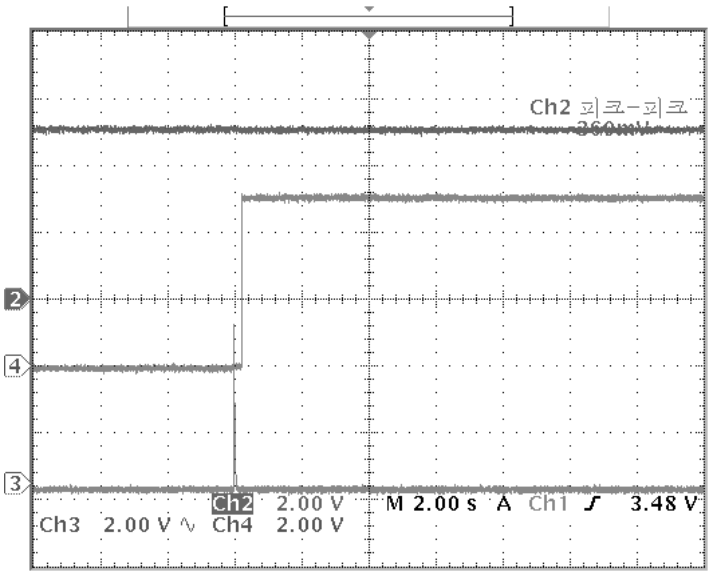
1) ZR36868 main clock is at 27MHz(X501)



1.0V, 27MHz

FIG 1-1

2) ZR36868 reset is low active



5.3VA

PWR_CTL_H

M_RESET(FRONT)

FIG 1-2

3) CN601 waveform during procedure(Downloading)

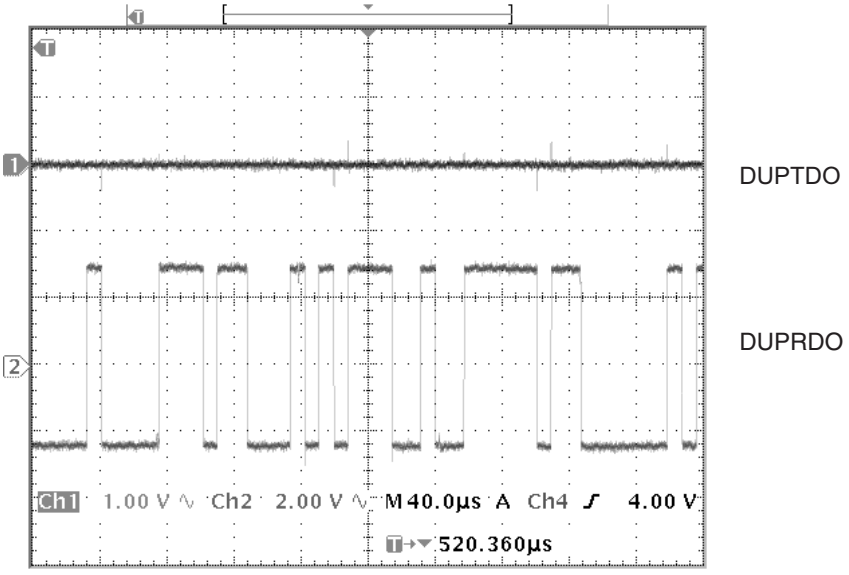


FIG 1-3

4) Flash R/W enable signal during download(Downloading)

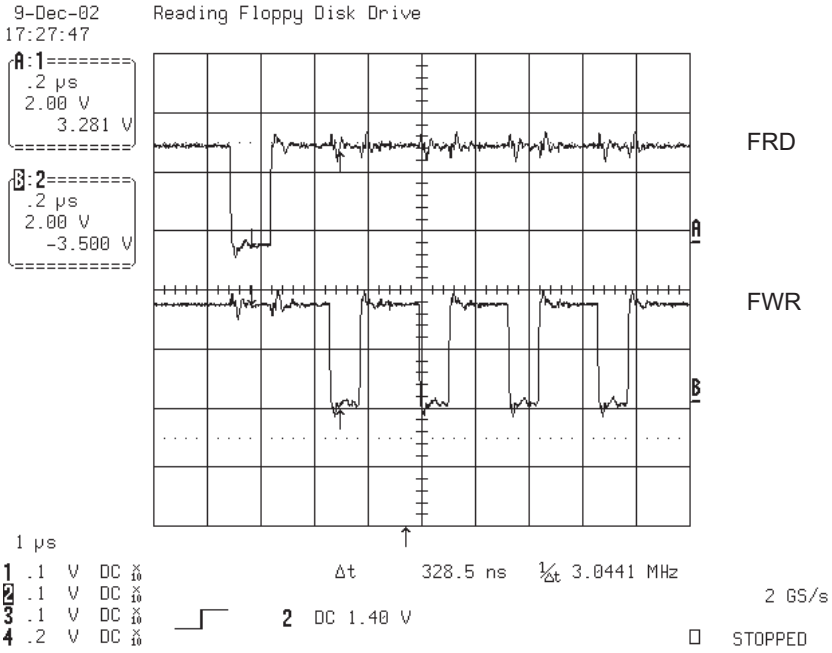


FIG 1-4

5.4.2 SDRAM CLOCK

DCLK = 135MHz, Vp-p=2.2, Vmax=2.7V

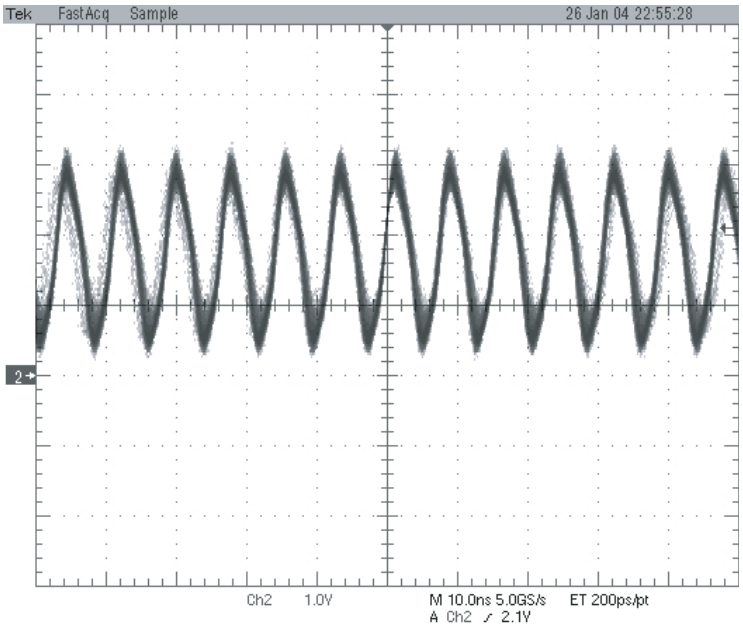


FIG 2-1

5.4.3 TRAY OPEN/CLOSE SIGNAL

1) Tray open/close waveform

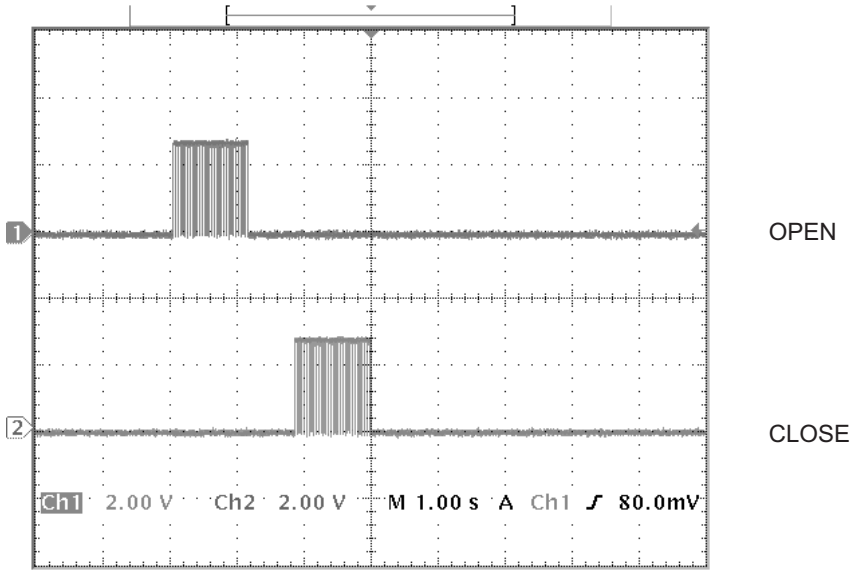
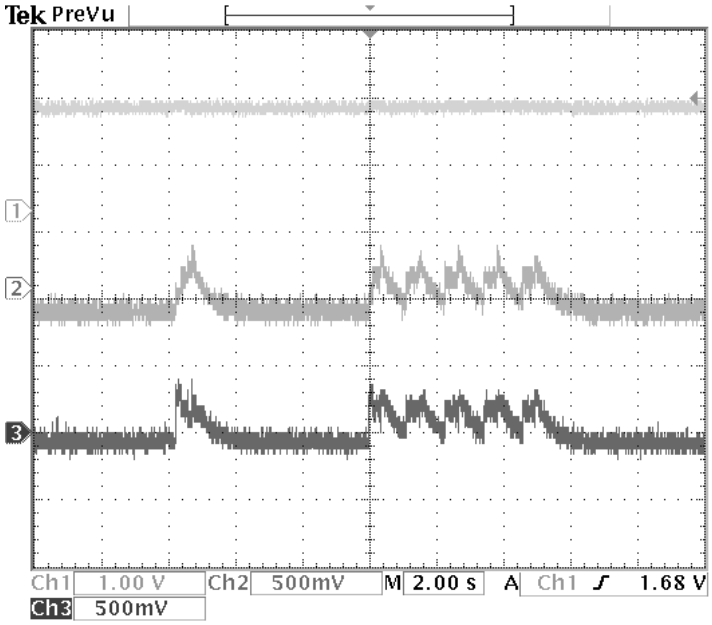


FIG 3-1

5.4.4 SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)



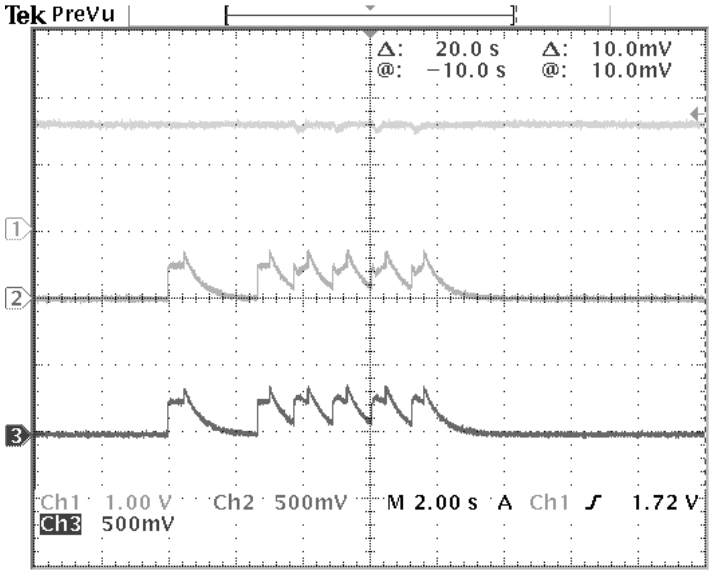
SLED_S(2.0V/1.4V/1.0V)

SLED+(4.7V/4.0V/2.6V)

SLED-(5.3V/4.0V/3.0V)

FIG 4-1

5.4.5 LENS CONTROL RELATED SIGNAL(NO DISC CONDITION)



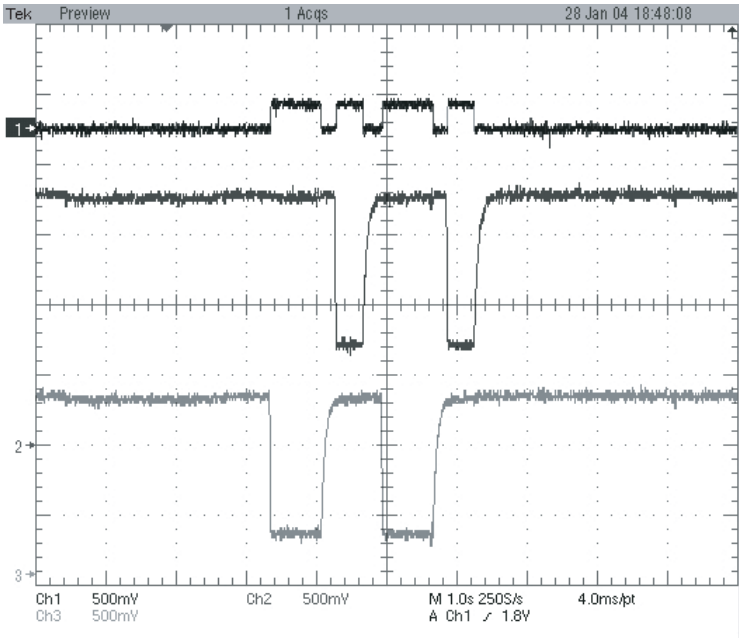
FOCUS_S(1.5V/1.4V/1.3V)

FACT+(4.0V/3.6V/3.2V)

FACT-(4.0V/3.6V/3.2V)

FIG 5-1

5.4.6 LASER POWER CONTROL RELATED SIGNAL(NO DISC CONDITION)



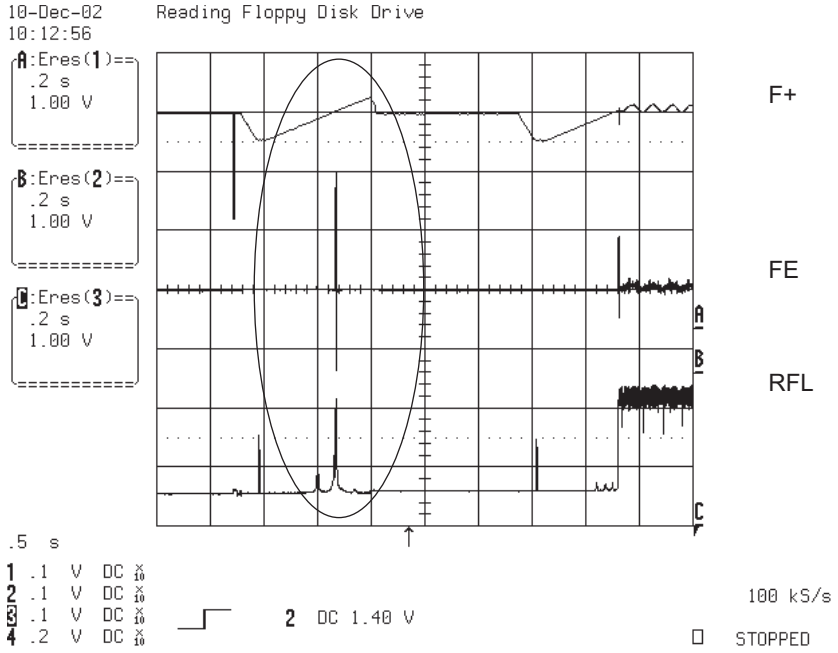
MD_CD(0V/180mV)

MD_LD(5.0V//3.5V)

DVD_LD(5.0V/3.6V)

FIG 6-1

5.4.7 DISC TYPE JUDGEMENT WAVEFORM



F+

FE

RFL

FIG 7-1 (DVD)

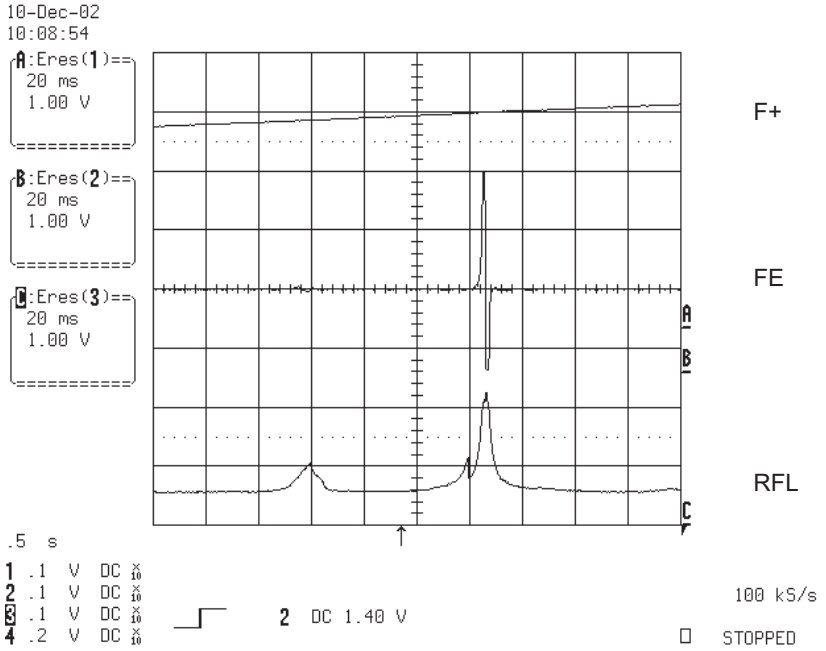


FIG 7-2 (DVD)

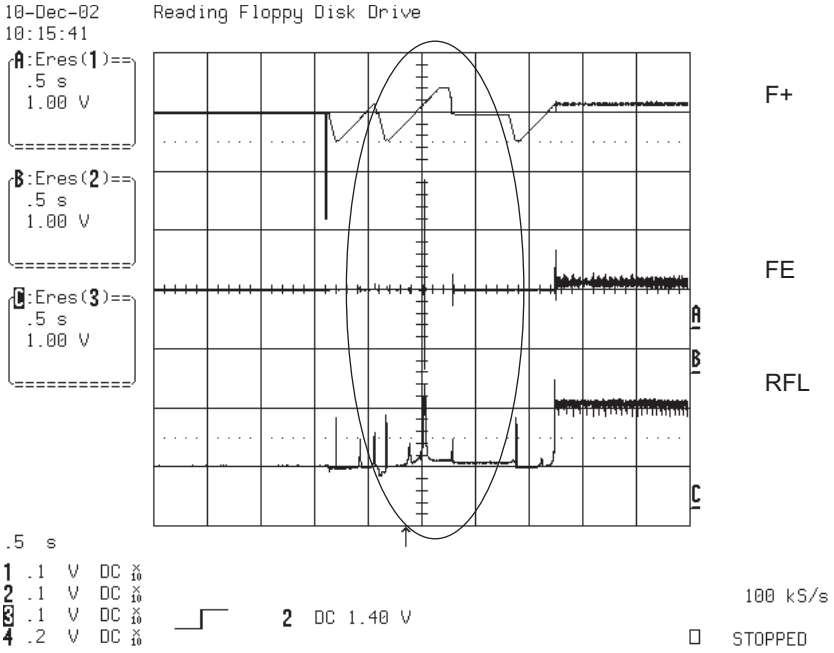


FIG 7-3 (CD)

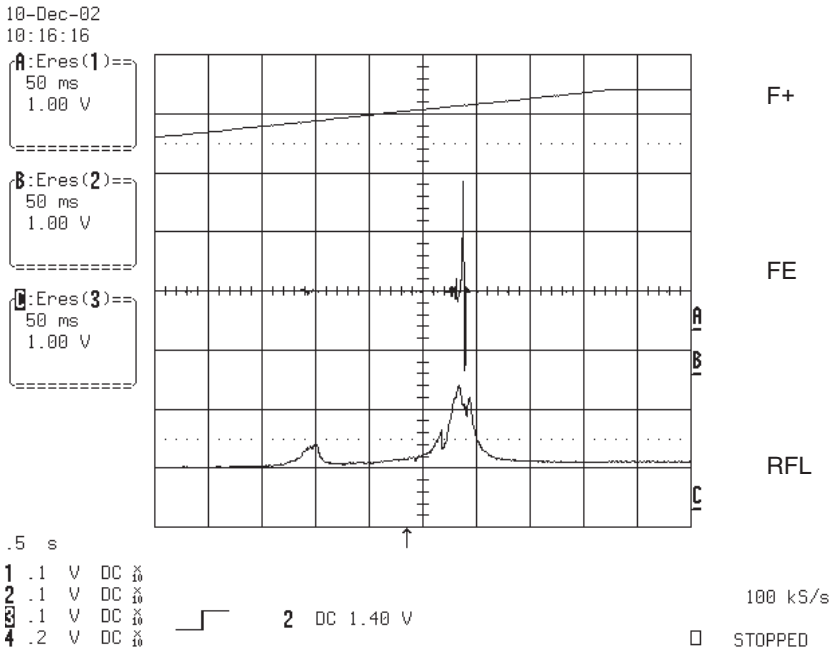


FIG 7-4 (CD)

5.4.8 FOCUS ON WAVEFORM

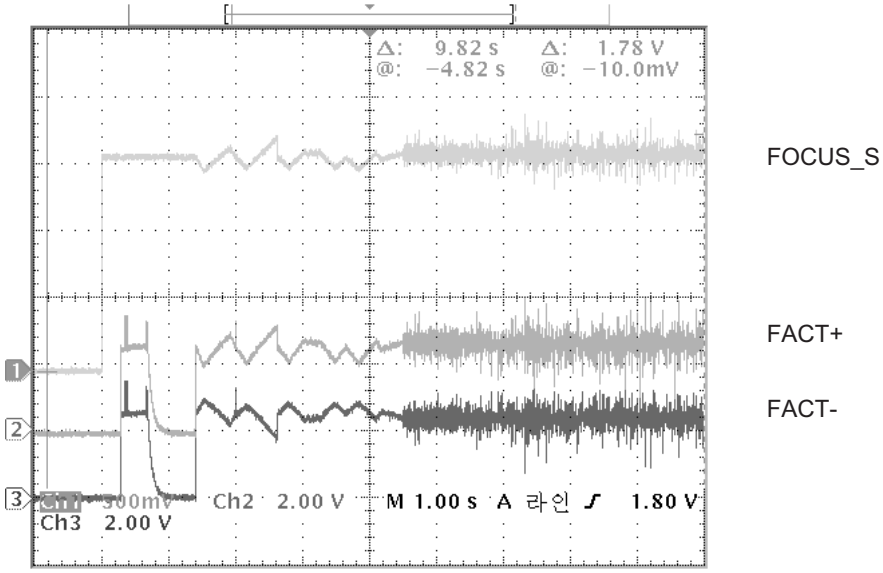
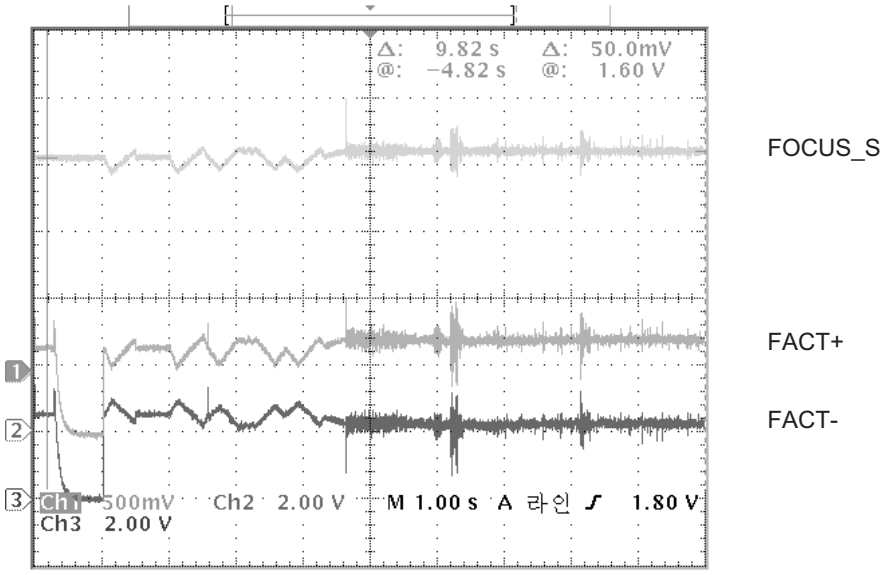


FIG 8-1 (DVD)



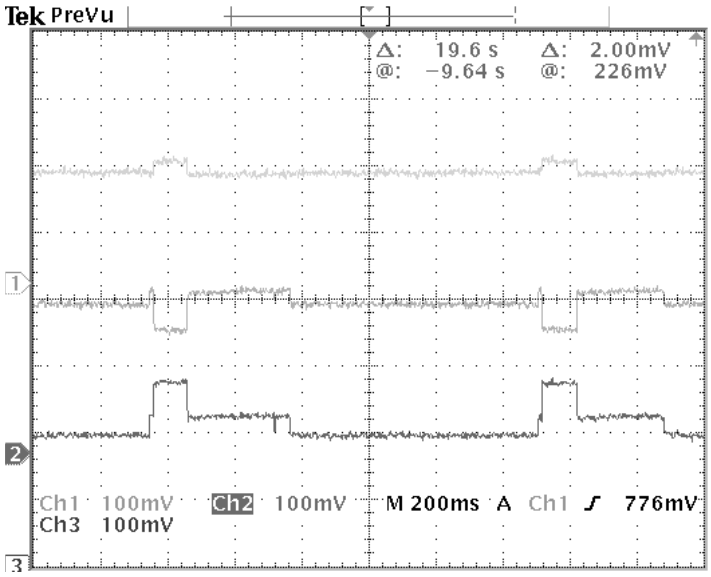
FOCUS_S

FACT+

FACT-

FIG 8-2 (CD)

5.4.9 SPINDLE CONTROL WAVEFORM (NO DISC CONDITION)



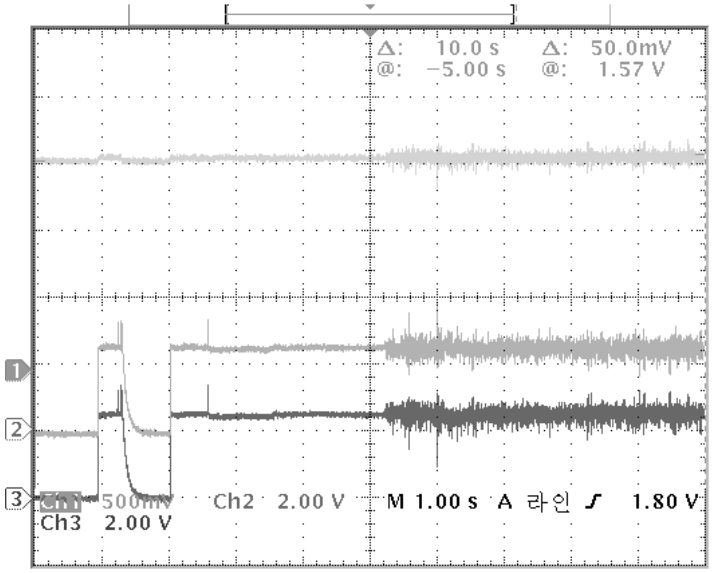
SPINDLE_S

MOT_SPDL-(3.6V/2.4V)

MOT_SPDL+(3.6V/4.8V)

FIG 9-1

5.4.10 TRACKING CONTROL RELATED SIGNAL(System checking)

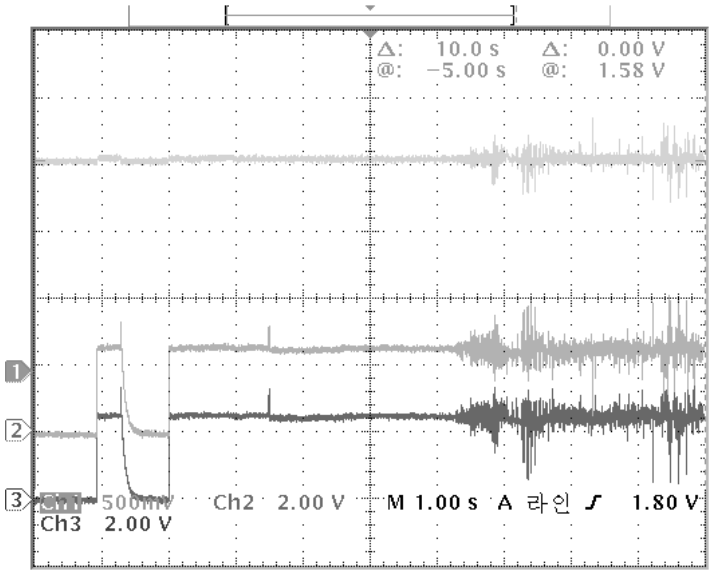


TRACK_S

TACT-

TACT+

FIG 10-1(DVD)



TRACK_S

TACT-

TACT+

FIG 10-2(CD)

5.4.11 ZR36868 AUDIO OPTICAL AND COAXIAL OUTPUT(SPDIF)

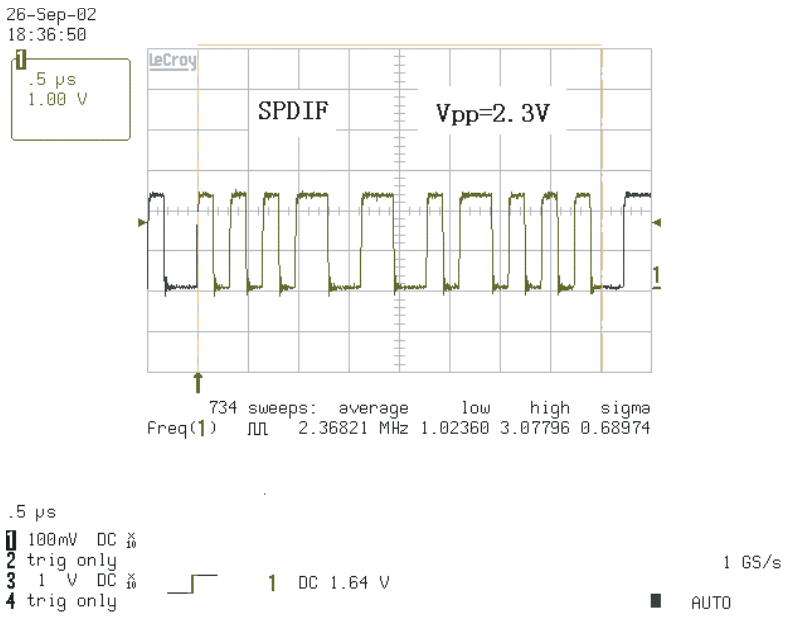


FIG 11-1

5.4.12 ZR36868 VIDEO OUTPUT WAVEFORM

1) 100%

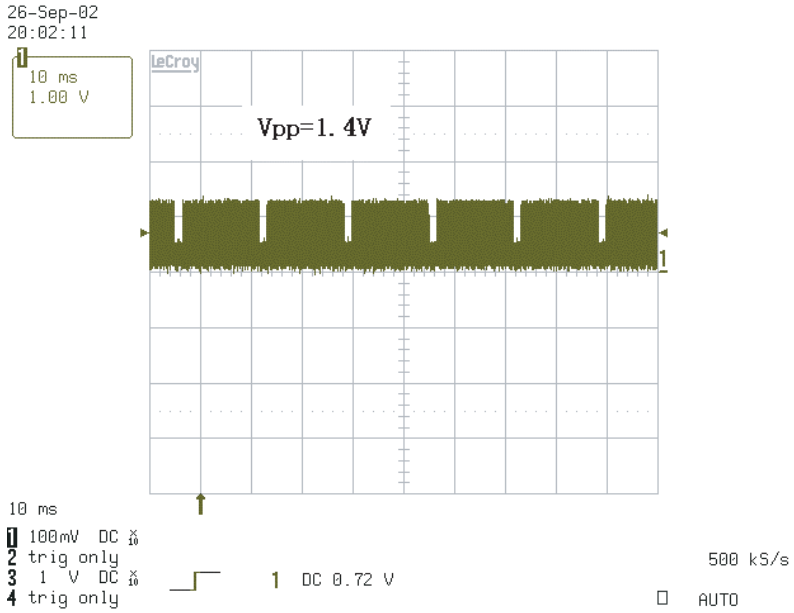


FIG 12-1

2) COMPOSITE VIDEO SIGNAL

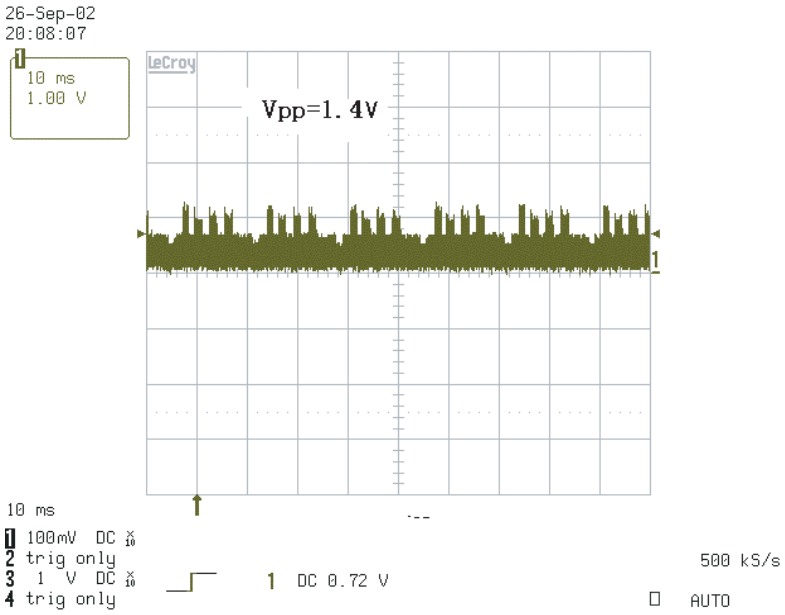


FIG 12-2

5.4.13 ZR36868 AUDIO OUTPUT TO AUDIO DAC

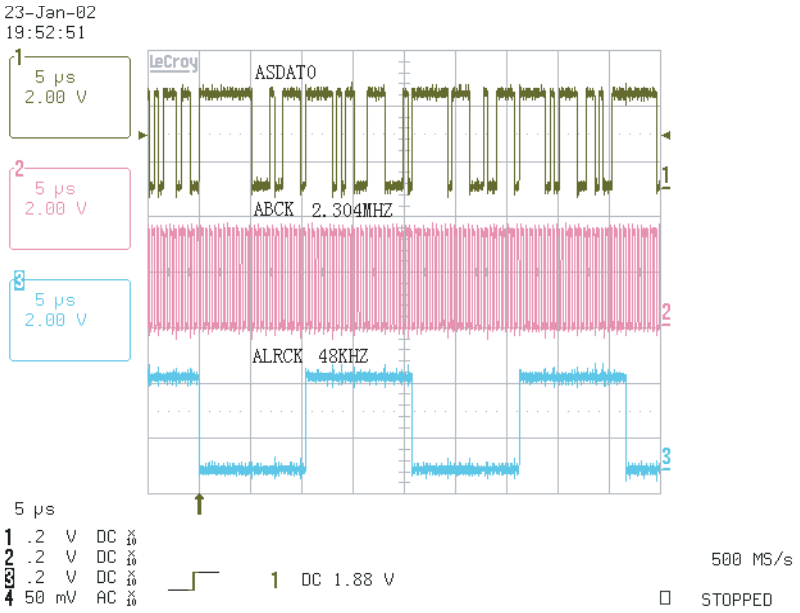


FIG 13-1

5.4.14 AUDIO OUTPUT FROM AUDIO DAC

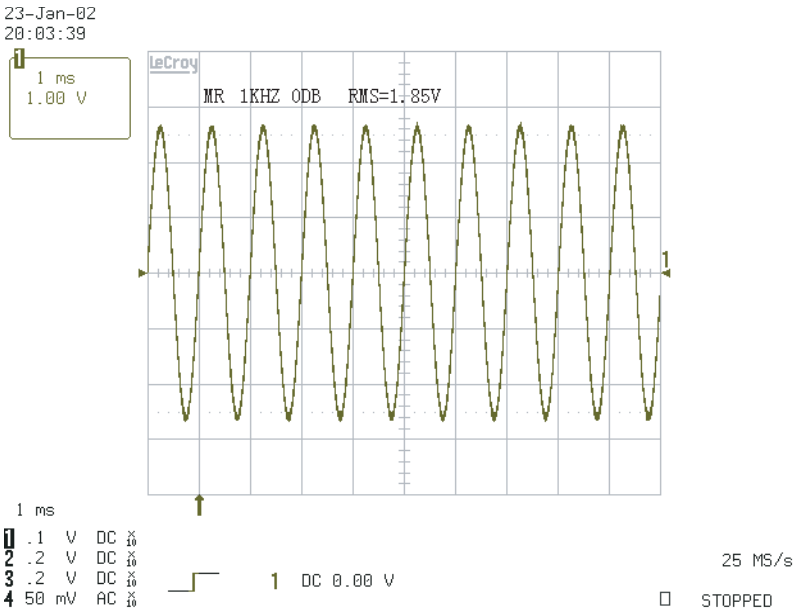


FIG 14-1

JVC
Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YD068)

Printed in Japan
VPT

JVC

SCHEMATIC DIAGRAMS

DVD PLAYER & VIDEO CASSETTE RECORDER

HR-XV28SEF,HR-XV28SEK, HR-XV28SER,HR-XV28SEU, HR-XV28SEY,HR-XV28SEZ

CD-ROM No.SML200505

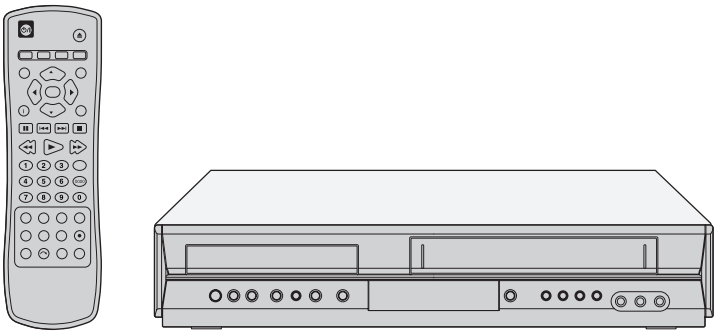
VIDEO Plus+ (EK model)

SHOWVIEW™ (EU, EY, EZ models)

VHS PAL

SHOWVIEW® (EF, ER models)

VHS PAL SECAM (EF model)



DVD VIDEO™ DOLBY DIGITAL dts DIGITAL OUT

COMPACT disc DIGITAL VIDEO COMPACT disc SUPER VIDEO COMPACT disc DIGITAL AUDIO

HR-XV28SEF,HR-XV28SEK,HR-XV28SER,HR-XV28SEU,HR-XV28SEY,HR-XV28SEZ [D5PV0]

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No.YD068SCH
2005/5

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components indentified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ(1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

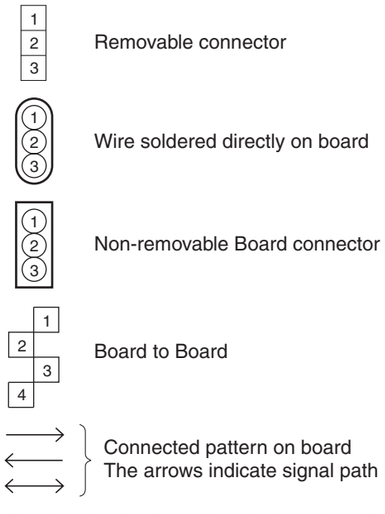
Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

AUX : Active at high.

$\overline{AUX}$ or AUX(L) : Active at low.

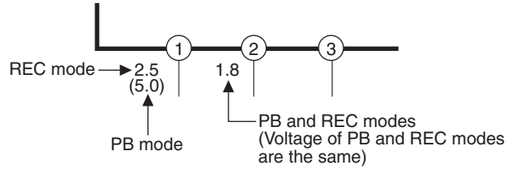
3. Interpreting Connector indications



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
2) Indication on schematic diagram
   Voltage indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

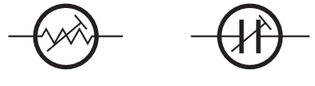
- Playback signal path
- Playback and recording signal path (including E-E signal path)
- Capstan servo path
- Drum servo path

(Example)

- R-Y — Playback R-Y signal path
- Y — Recording Y signal path

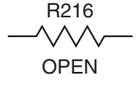
6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

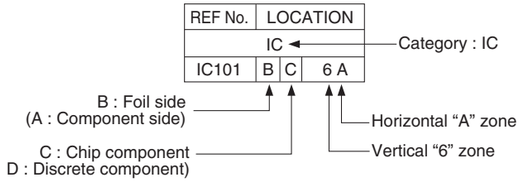
1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

rts location are indicated by guide scale on the circuit board.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

■ OVERALL WIRING DIAGRAM

DECK

POWER (SMPS) BOARD

POWER(SMPS) Page2-5 SHEET 1

MD

KEY BOARD

1	K-RTN2	1
2	GND	2

VCR MAIN BOARD

A/V	Page2-7	SHEET 2
SYSTEM	Page2-9	SHEET 3
TUNER/IF	Page2-11	SHEET 4
HiFi AUDIO	Page2-13	SHEET 5
SCART(JACK)	Page2-15	SHEET 6
DVD SERVO	Page2-17	SHEET 7
DVD AV/JACK	Page2-19	SHEET 8
DVD SYSTEM	Page2-21	SHEET 9

P3D01

1	SP PB A	11
2	SP REC	2
3	SP PB B	3
4	EP PB B	4
5	EP REC	5
6	EP PBA	6
7	Hi-Fi PB A	7
8	Hi-Fi REC	8
9	Hi-Fi PB B	9

PMC01

1	CFG	1
2	12VA(CAP)	2
3	5.2VA	3
4	CAP REVH'	4
5	Limit	5
6	MOTOR GND	6
7	GND	7
8	12VA(DRUM)	8
9	CAP CTL	9
10	LD IN	10
11	DFG/FG	11
12	DRUM CTL	12

P3D02

1	CTL(+)	1
2	CTL(-)	2
3	A/E(+)	3
4	A/E(-)	4
5	A.REC	5
6	A.PB	6

P3D03

1	GND	1
2	FULL ERASE	2

PPM01

1	MOTOR_Vcc	1
2	REG_12V	2
3	REG_9V	3
4	GND	4
5	8V	5
6	GND	6
7	3.3V	7
8	PWR_CTL'H'	8
9	33V	9
10	GND	10
11	5.3VA	11
12	5V	12
13	MSV/SVT	13

PMD01 PMD02

1	Vcc(HF)	1
2	RF	2
3	DVD_LD	3
4	DVD_PD	4
5	VOL(DVD)	5
6	GND	6
7	VC_INPUT	7
8	Vcc(HF)	8
9	F	9
10	E	10
11	A	11
12	D	12
13	C	13
14	B	14
15	F(+)	15
16	T(-)	16
17	T(+)	17
18	F(-)	18
19	Vcc	19
20	GND	20
21	CD_LD	21
22	CD_PD	22
23	VOL(CD)	23

PMD03

1	SPM +	1
2	SPM -	2
3	FM +	3
4	FM -	4
5	LM -	5
6	LM +	6
7	SW(OPEN)	7
8	SW(CLOSE)	8
9	GND	9
10	SW(LEAD IN)	10
11	GND	11

■ POWER(SMPS) CIRCUIT DIAGRAM

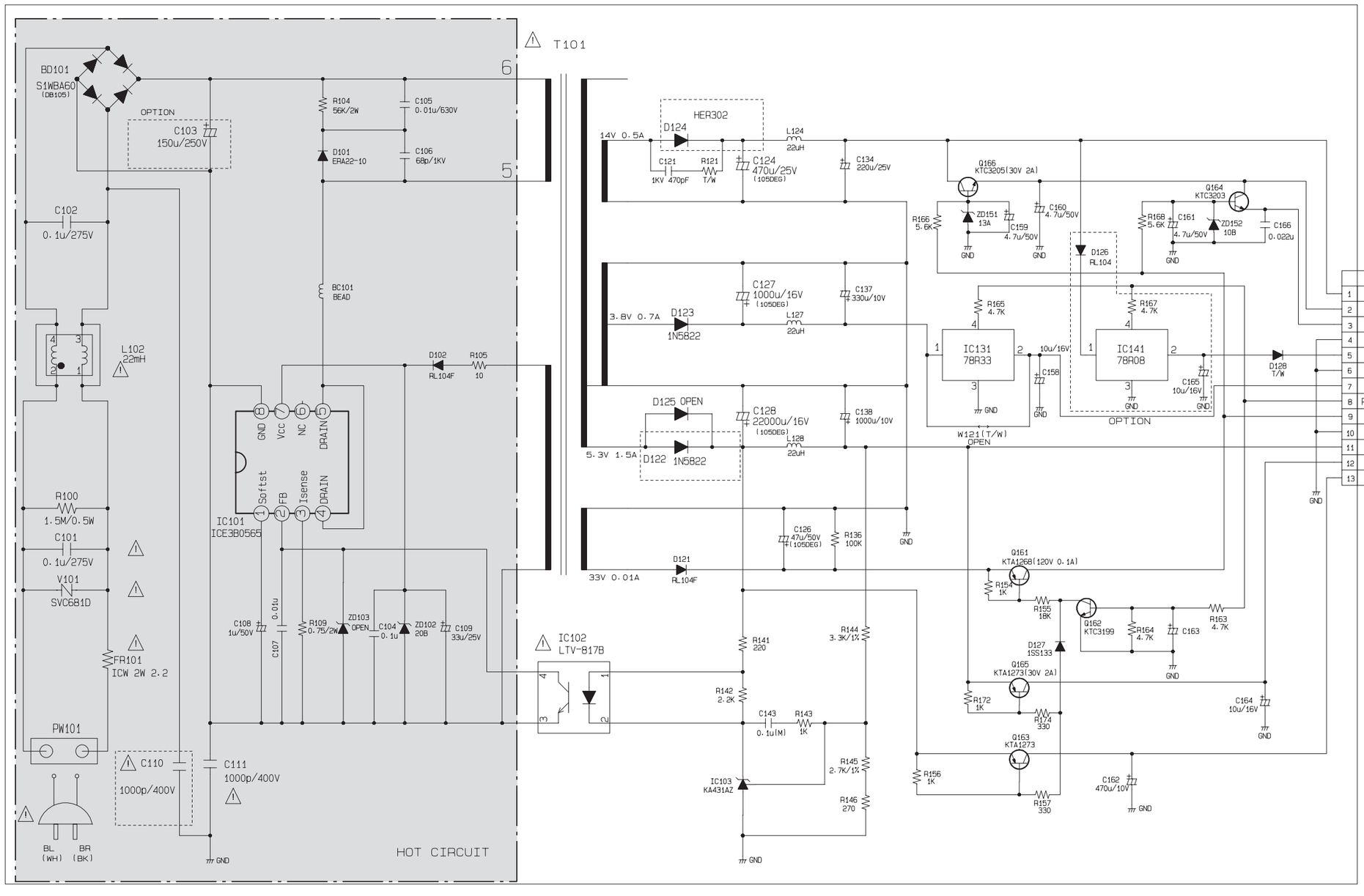
IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE JVC ELECTRONICS CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE SHADED ON THE SCHEMATIC FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

NOTE :

1. Shaded(■) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



	C103
WIDE	68u/400V
NARROW	150u/250V
CIS, INDO-S. AFRICA	68u/450V

	D124	D122
WIDE	UF5402	D3S6M
NARROW	HER302	1N5822

	C110
N.T	1000p/400V
PAL	OPEN

	D126	R167	IC141	C165
ZORAN	OPEN	OPEN	OPEN	OPEN
M.T.K	RL104	4.7K	78R08	10u/16V

NOTES) ⏚ Symbol denotes AC ground.
⏚ Symbol denotes DC chassis ground.

NOTE) ▲ Warning
Parts that are shaded are critical With respect to risk of fire or electricial shock.

SHEET 1

■ A/V CIRCUIT DIAGRAM

IC301 Pin70 is defective.
PB COLOR Signal disappear.

Q305 is defective.
EE, PB Screen doesn t appear.

IC301 Pin 69, 68 are defective.
PB and Recording is failed.
(IC301 doesn t operate.)

D301or IC301 Pin 80
REC is defective.

IC301 Pin 84 is defective.
Audio Tracking is failed.

X301 is defective.
PB COLOR Signal disappear.

Q302, Q303, Q314
are defective.
No mono Audio Signal
in PB MODE.

Q301, Q306 are defective.
Normal Audio signal is not recorded.

OPTION

	HI-FI	MONO
C378	X	O
C379	X	O
R369	X	O
R370	X	O
R371	X	O
R372	X	O
R343	1K	X
R342	1K	0 Ohm

OPTION

	HI-FI	MONO
C309	270P	220P

PB Y+C
PB Y
PB C
PB SECAM COLOR
REC Y+C
REC Y
REC C
REC SECAM COLOR
REC AUDIO
PB AUDIO(MONO)
WAVEFORM

SECAM OPTION

SHEET 2

SYSTEM CIRCUIT DIAGRAM

Deck will not operate.
R575, R576, R577, R578 are defective.

Auto stop occures.
RS501,RS502 are defective.

Auto Rew will not working.
ES501, ES502, LD501 are defective.

WAVEFORM

CLOCK SETTING will not operate.
X501 is defective.

µ-COM will not operate.
X502 is defective.

VCR will not operate.
IC505 is defective.

µ-COM is unstable.
Q501, Q503 are defective.

IC501
MN101D10X

IC503
24WC16P

LED501

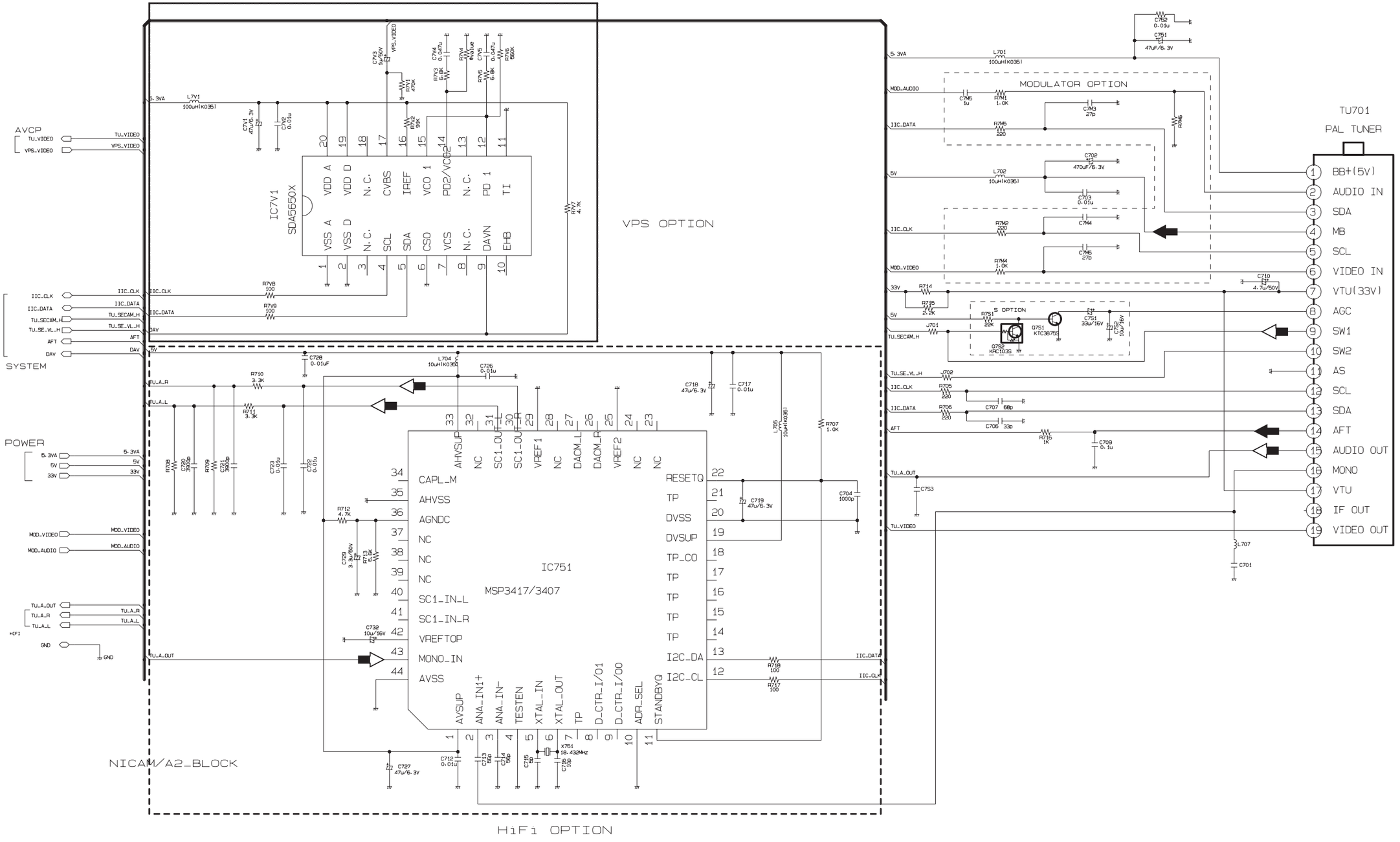
PT6955

IC504
KIA7031P

IC505 KIA7042

SHEET 3

■ TUNER/IF CIRCUIT DIAGRAM

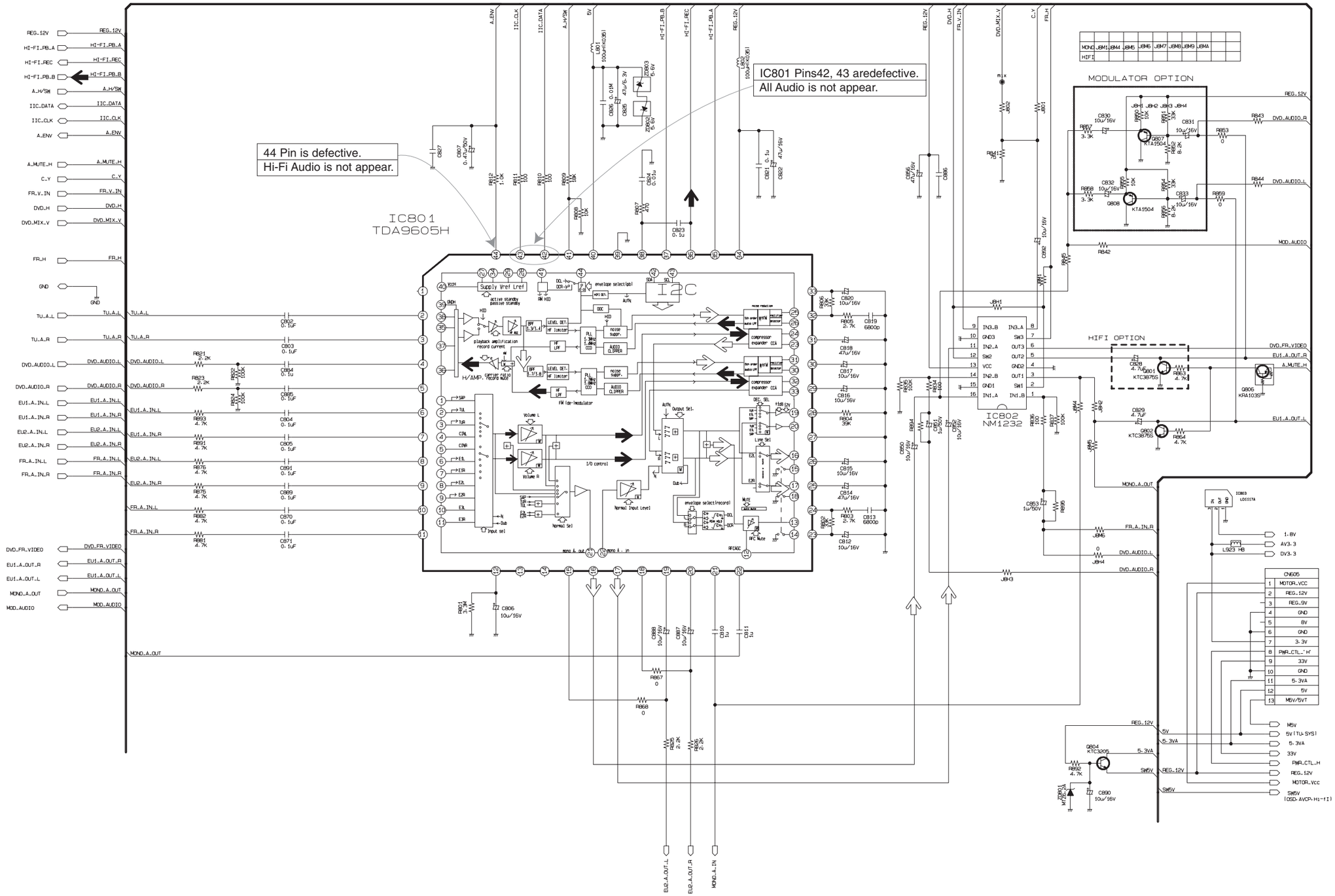


EE MODE(VIDEO)

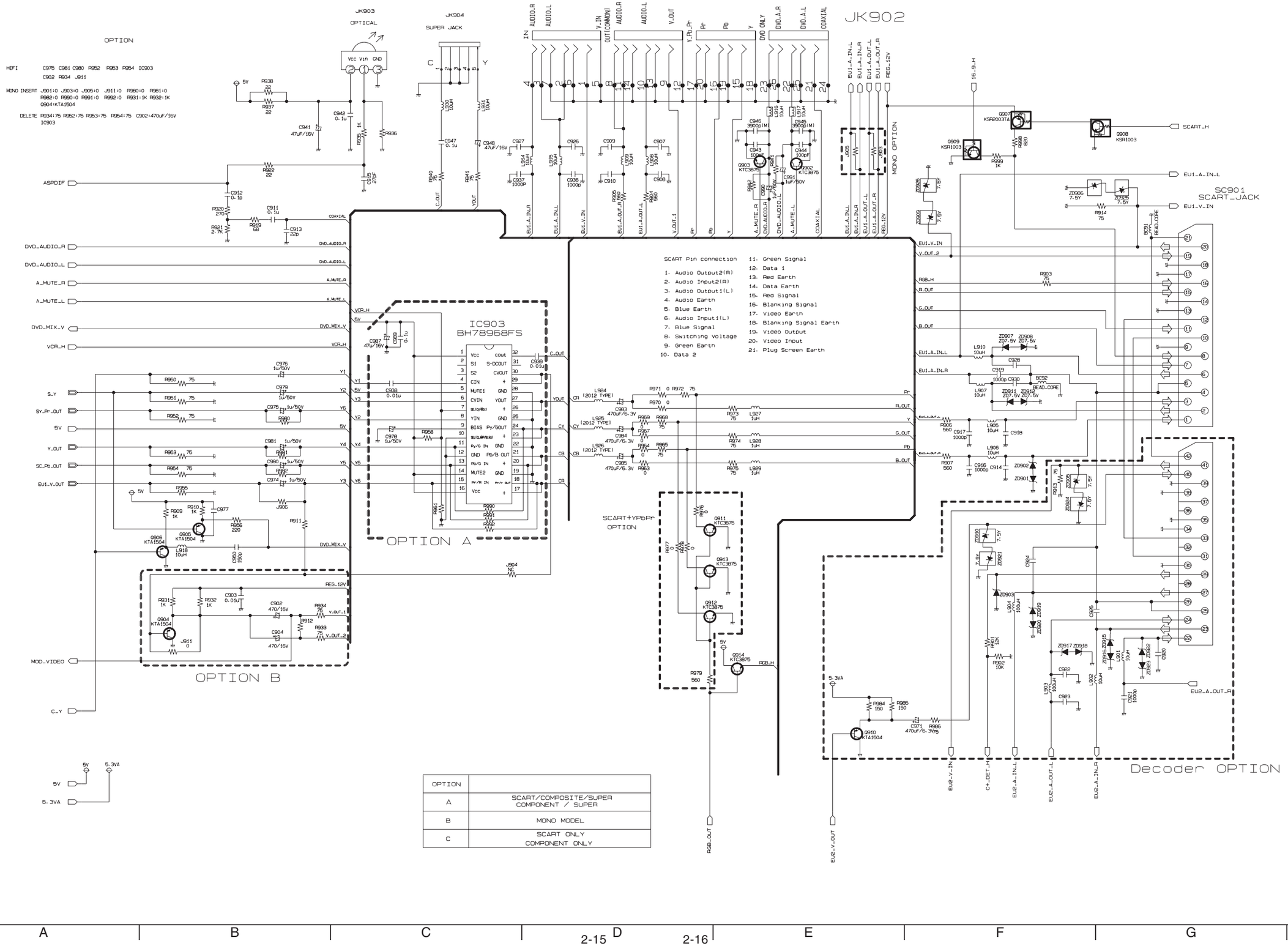
TU MODE (AUDIO)

SHEET 4

■ Hi-Fi AUDIO CIRCUIT DIAGRAM

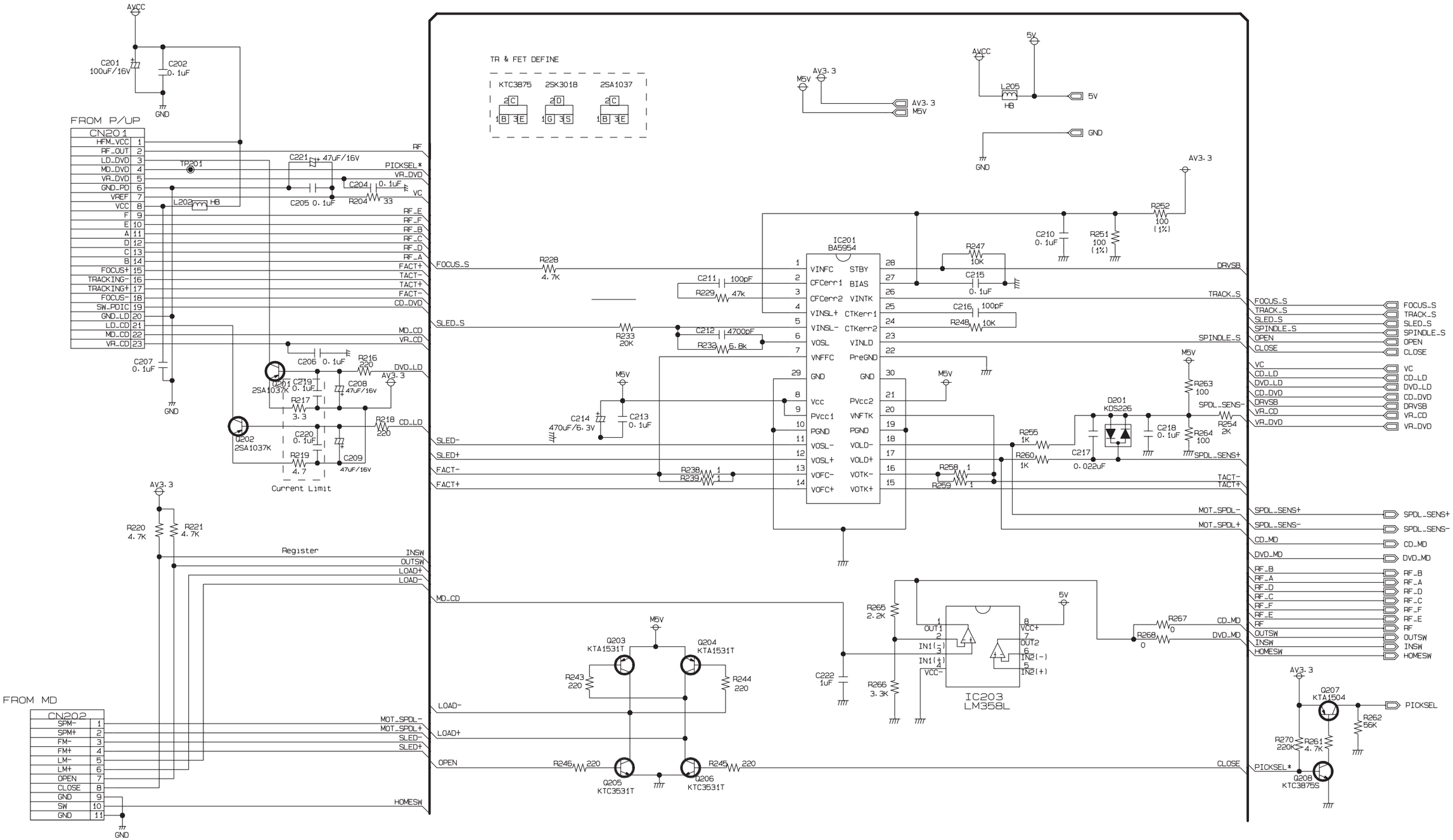


■ SCART(JACK) CIRCUIT DIAGRAM



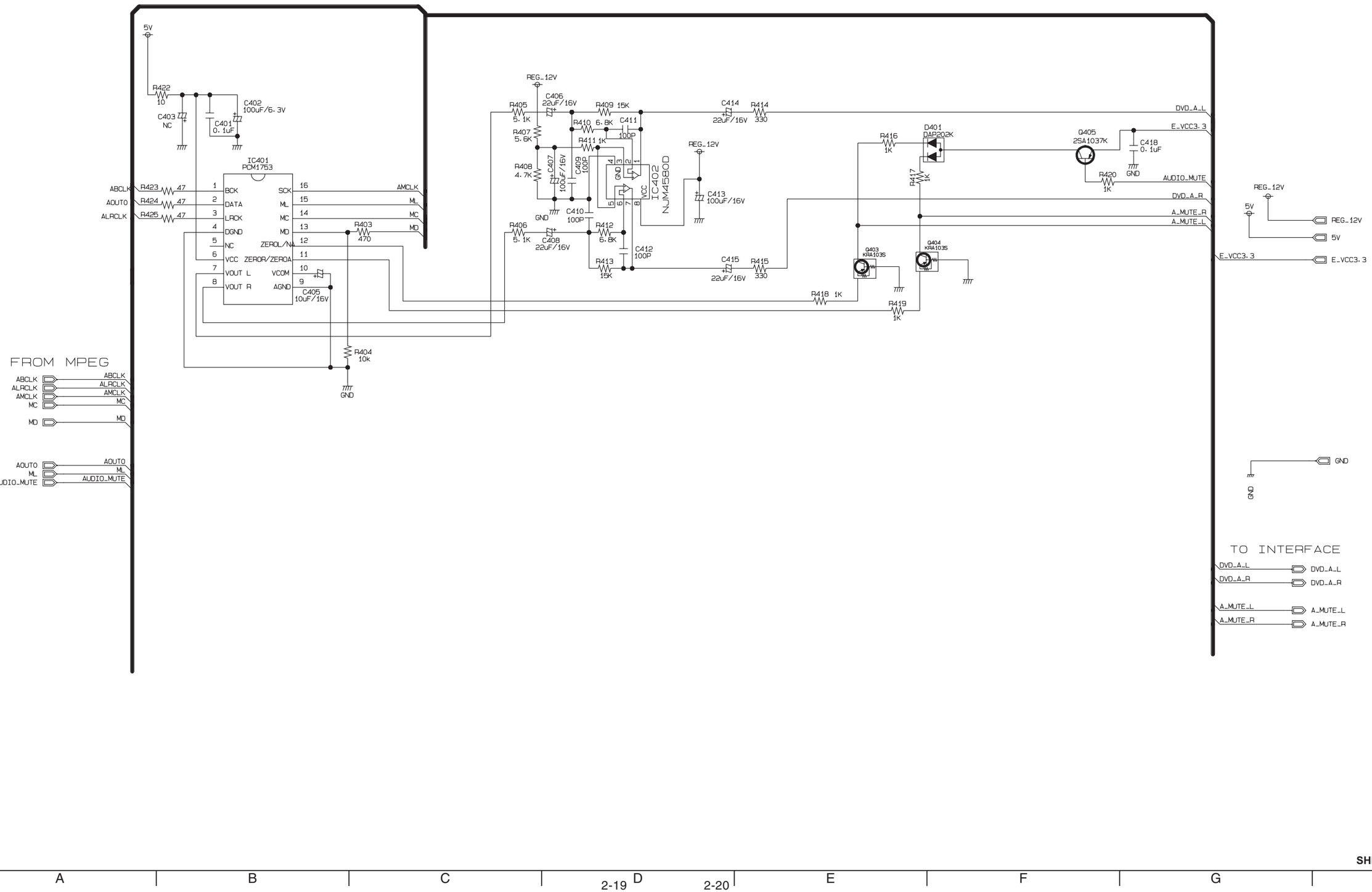
OPTION	
A	SCART/COMPOSITE/SUPER COMPONENT / SUPER
B	MONO MODEL
C	SCART ONLY COMPONENT ONLY

■ DVD SERVO CIRCUIT DIAGRAM

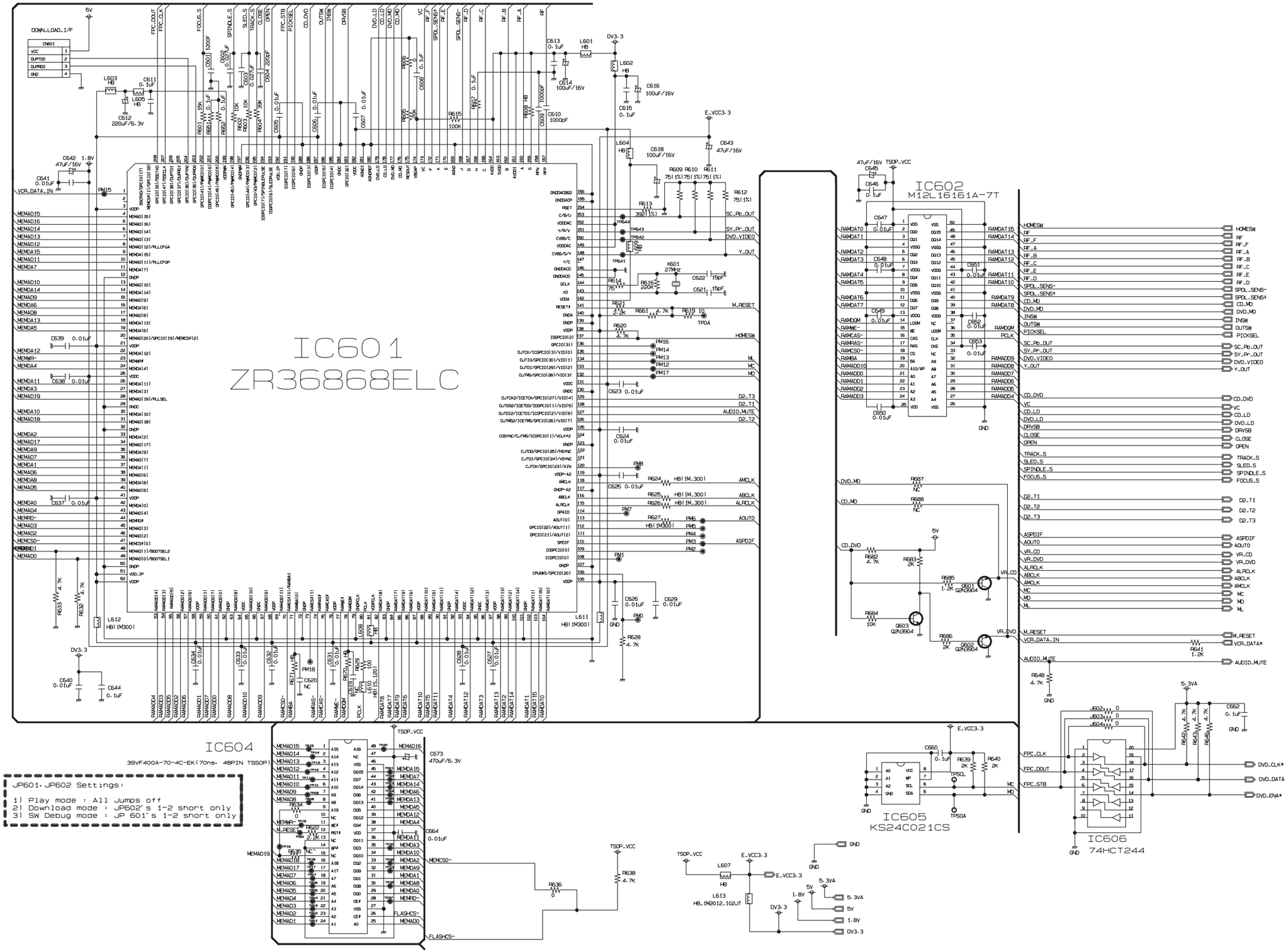


SHEET 7

■ DVD AV/JACK CIRCUIT DIAGRAM

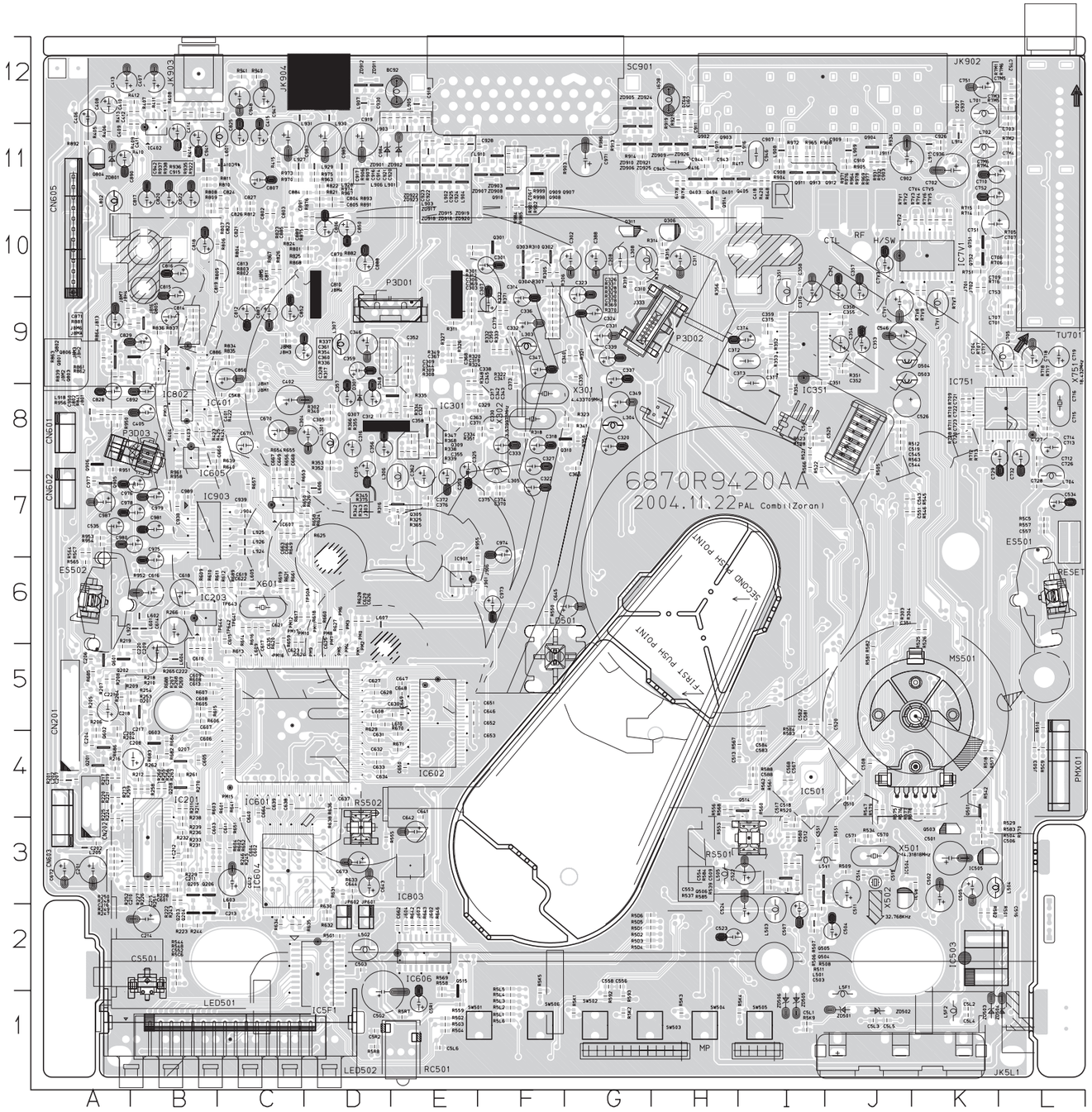


■ DVD SYSTEM CIRCUIT DIAGRAM



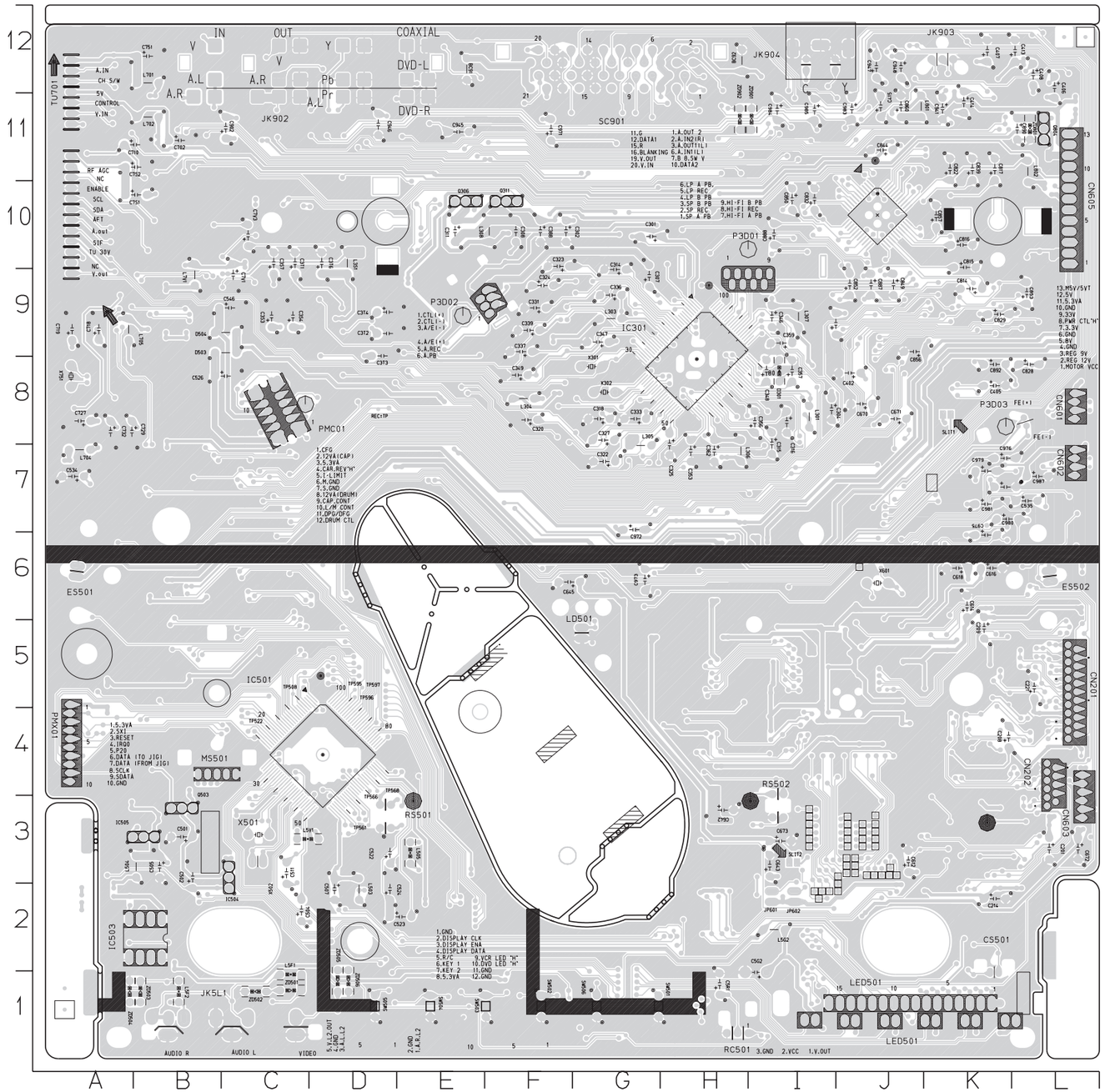
PRINTED CIRCUIT DIAGRAMS
■ VCR MAIN BOARD

-TOP SIDE-



■ VCR MAIN BOARD

-BOTTOM SIDE-



COMPONENT PARTS LOCATION GUIDE <VCR MAIN>

BC91	H12	C358	E8	C544	J8	C649	E5	C826	C11	CS501	B2	L308	G10	PMX01	L5	R229	B3	R347	E8	R553	H3	R617	C6
BC92	E12	C359	D9	C545	J8	C650	E4	C827	C11	CTL±TP	J10	L3S1	I10	Q201	A4	R231	B3	R348	E9	R555	D3	R618	D6
C201	A3	C360	D9	C546	J9	C651	E5	C828	A8	D201	B5	L501	I2	Q202	A5	R232	B3	R349	E9	R556	H4	R619	C6
C202	A3	C361	D9	C547	I8	C652	E5	C829	B9	D301	D8	L503	I2	Q203	B2	R233	B3	R350	G8	R557	L7	R620	C5
C204	A4	C362	E7	C551	J7	C653	E4	C850	D10	D401	H11	L504	K3	Q204	B2	R236	B3	R351	F8	R558	E1	R621	C6
C205	A5	C363	E8	C552	B2	C660	B8	C851	C9	D503	J9	L505	H3	Q205	B3	R238	B3	R352	D8	R559	E1	R622	C2
C206	A5	C366	G8	C553	I3	C662	E2	C852	C9	D504	J9	L5F1	J1	Q206	B3	R239	B3	R353	D8	R560	I4	R624	D7
C207	A4	C367	E9	C554	I3	C663	C7	C853	A9	ES501	L7	L5F2	K1	Q207	B4	R243	B3	R354	D9	R561	I4	R625	D7
C208	B4	C368	E9	C556	G2	C664	C4	C856	C9	ES502	A5	L5G2	D2	Q208	B4	R244	B2	R355	E8	R562	I4	R626	D7
C209	B5	C369	E9	C557	L7	C666	C7	C870	D10	H/SW±TP	J10	L5V1	J3	Q301	F10	R245	B3	R356	H10	R563	J8	R627	D6
C210	B3	C370	F7	C558	G2	C667	C7	C871	B9	IC201	B3	L601	B6	Q302	F10	R246	B3	R361	E10	R564	A7	R628	D6
C211	B3	C371	E8	C567	I4	C668	C7	C884	D11	IC203	B6	L602	B6	Q303	F10	R247	A3	R362	E10	R565	A6	R629	D5
C212	B3	C372	E7	C568	I4	C669	C7	C885	C10	IC3S1	I9	L603	C2	Q304	F10	R248	A3	R365	E7	R566	I8	R630	D2
C213	C2	C373	F8	C570	J3	C670	C8	C886	B9	IC401	B8	L604	B5	Q305	E7	R249	A3	R366	D8	R567	I4	R631	D3
C214	B2	C374	F7	C571	J3	C671	C8	C887	C9	IC402	B11	L605	C6	Q306	H10	R250	A3	R368	E8	R568	H4	R632	D2
C215	B3	C375	F7	C581	I5	C672	A3	C888	D10	IC503	K2	L606	D7	Q307	E8	R251	B3	R369	F9	R569	E2	R633	D3
C216	A3	C376	E7	C583	I4	C673	D3	C889	D10	IC504	J3	L607	D6	Q309	E8	R252	A3	R370	F9	R570	K3	R634	C2
C217	B5	C378	F9	C584	I4	C701	L9	C890	A11	IC505	K3	L608	D5	Q310	G8	R253	B5	R371	F9	R575	K4	R635	C2
C218	A5	C379	F9	C588	I4	C702	K11	C891	D10	IC5F1	D2	L609	C6	Q311	G10	R254	B5	R372	F9	R576	K4	R636	D4
C219	A4	C388	G10	C5B2	I5	C703	L11	C892	B8	IC601	C5	L610	D5	Q403	H11	R255	B4	R375	E8	R577	K4	R638	D3
C220	B5	C3S1	I8	C5G2	D1	C704	K9	C902	J11	IC602	E5	L701	K12	Q404	H11	R256	B4	R3S1	J9	R578	K4	R639	B8
C221	A5	C3S2	J9	C5G3	D2	C706	L10	C903	J11	IC604	C3	L702	K11	Q405	I11	R258	B4	R3S2	I9	R579	J4	R640	B8
C222	B6	C3S3	J9	C5K8	C8	C707	L10	C907	I11	IC605	B8	L704	L7	Q501	K4	R259	B4	R3S3	I9	R580	I3	R641	C4
C301	F10	C3S4	J9	C5L1	I1	C709	L10	C908	I11	IC606	E2	L705	L9	Q503	K3	R260	B4	R3S4	I8	R581	J5	R642	E2
C302	G10	C3S5	J9	C5L2	K1	C710	K11	C909	J11	IC607	C7	L707	L9	Q504	I3	R261	B4	R403	B8	R582	J5	R643	E2
C303	E9	C3S6	J9	C5L3	J1	C712	L8	C910	J11	IC751	L8	L7V1	K9	Q505	I3	R262	B4	R404	B8	R583	K3	R646	E2
C304	D8	C3S7	J10	C5L4	K1	C713	L8	C911	H11	IC7V1	K10	L801	C11	Q506	I3	R263	B4	R405	A11	R584	I3	R648	I11
C305	D8	C3S8	I10	C5L5	J1	C714	L8	C913	H12	IC802	B9	L802	A11	Q514	I4	R264	A5	R406	A11	R585	I3	R649	C7
C306	E9	C3S9	I9	C5L6	E1	C715	L8	C914	E12	IC803	E3	L901	E11	Q515	E1	R265	B6	R407	B12	R588	I4	R650	C7
C307	F9	C3T1	J10	C5R1	E1	C716	L8	C915	B12	IC901	E6	L902	E11	Q601	A5	R266	B6	R408	B12	R592	G1	R651	C3
C308	G10	C3T2	I9	C5R2	D1	C717	K9	C916	E12	IC903	B7	L903	E11	Q602	A4	R267	B5	R409	B11	R593	G1	R652	C3
C309	E9	C3T3	I8	C5S1	I3	C718	L9	C917	D12	J303	E8	L904	E11	Q603	B4	R268	B5	R410	B11	R5B3	I4	R653	C7
C310	G10	C3T4	I9	C601	B3	C719	L9	C918	E12	J333	G9	L905	E12	Q7S1	K10	R269	B5	R411	B12	R5B4	I5	R654	C8
C311	H10	C3T5	I9	C602	C3	C720	K8	C919	D12	J503	L4	L906	E11	Q7S2	K10	R270	B4	R412	B12	R5C5	L7	R655	C8
C312	D8	C3T6	I10	C603	B3	C721	K8	C920	E12	J602	E2	L907	D12	Q801	A9	R301	E9	R413	B12	R5C6	B2	R656	C7
C314	F9	C3T7	I9	C604	B3	C722	K8	C921	E12	J603	E2	L908	I11	Q802	A9	R302	D8	R414	B11	R5C7	A7	R657	C7
C315	D8	C401	B8	C605	B4	C723	K8	C922	E11	J604	E2	L909	J11	Q803	B9	R303	J6	R415	C11	R5C9	L4	R658	C7
C316	D8	C402	C8	C606	B4	C726	L8	C923	E11	J701	K10	L910	F11	Q804	A11	R304	J6	R416	H11	R5D1	G2	R659	C6
C317	E8	C405	B8	C607	B4	C727	L8	C924	E11	J702	K10	L914	K11	Q805	B9	R305	F10	R417	H11	R5D2	G2	R660	D6
C318	F8	C406	A12	C608	B5	C728	L7	C925	E11	J801	A8	L915	K11	Q806	B9	R306	F10	R418	H11	R5D3	G2	R661	C6
C319	E9	C407	B12	C609	B5	C729	L8	C926	K11	J802	A8	L916	I11	Q902	H11	R307	F10	R419	H11	R5D4	G2	R670	E4
C320	G8	C408	A12	C610	B5	C732	L8	C927	K11	J813	A9	L917	H11	Q903	H11	R308	E9	R420	I11	R5D5	G2	R671	E4
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R810	B11	R999	F11	TP03	I2																		
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R821	D11	RF±TP	J10	TP06	J2																		
R822	D11	RS501	I3	TP07	J3																		
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R967	D11																						
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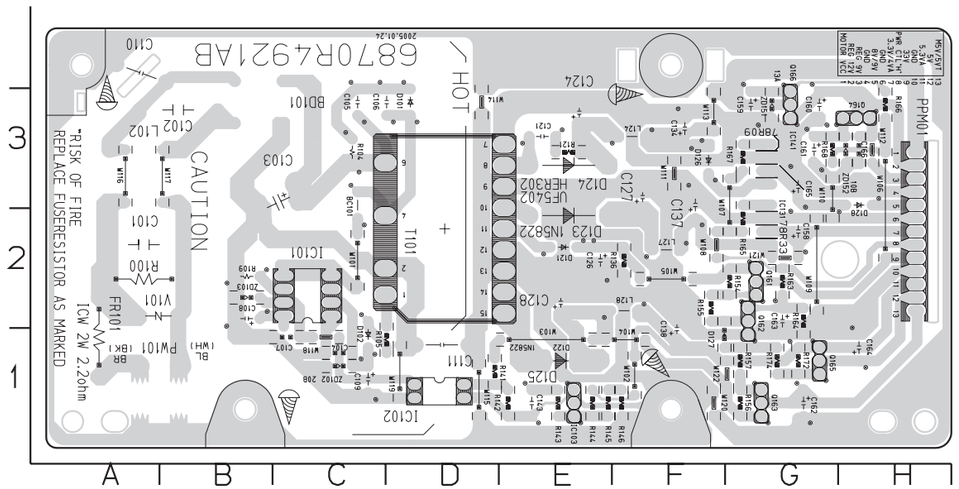
R969	I11																						
R970	C11																						
R971	I11																						
R972	I11																						

■ POWER BOARD


6870R4921AB
2005.01.24
CAUTION
RISK OF FIRE
REPLACE FUSERESISTOR AS MARKED
ICW 2W 2.2ohm
HOT
PPM01
T101
IC101
IC102
IC103
D124
D123
D125
D126
D127
D128
Q164
Q165
Q166
Q167
Q168
Q169
Q170
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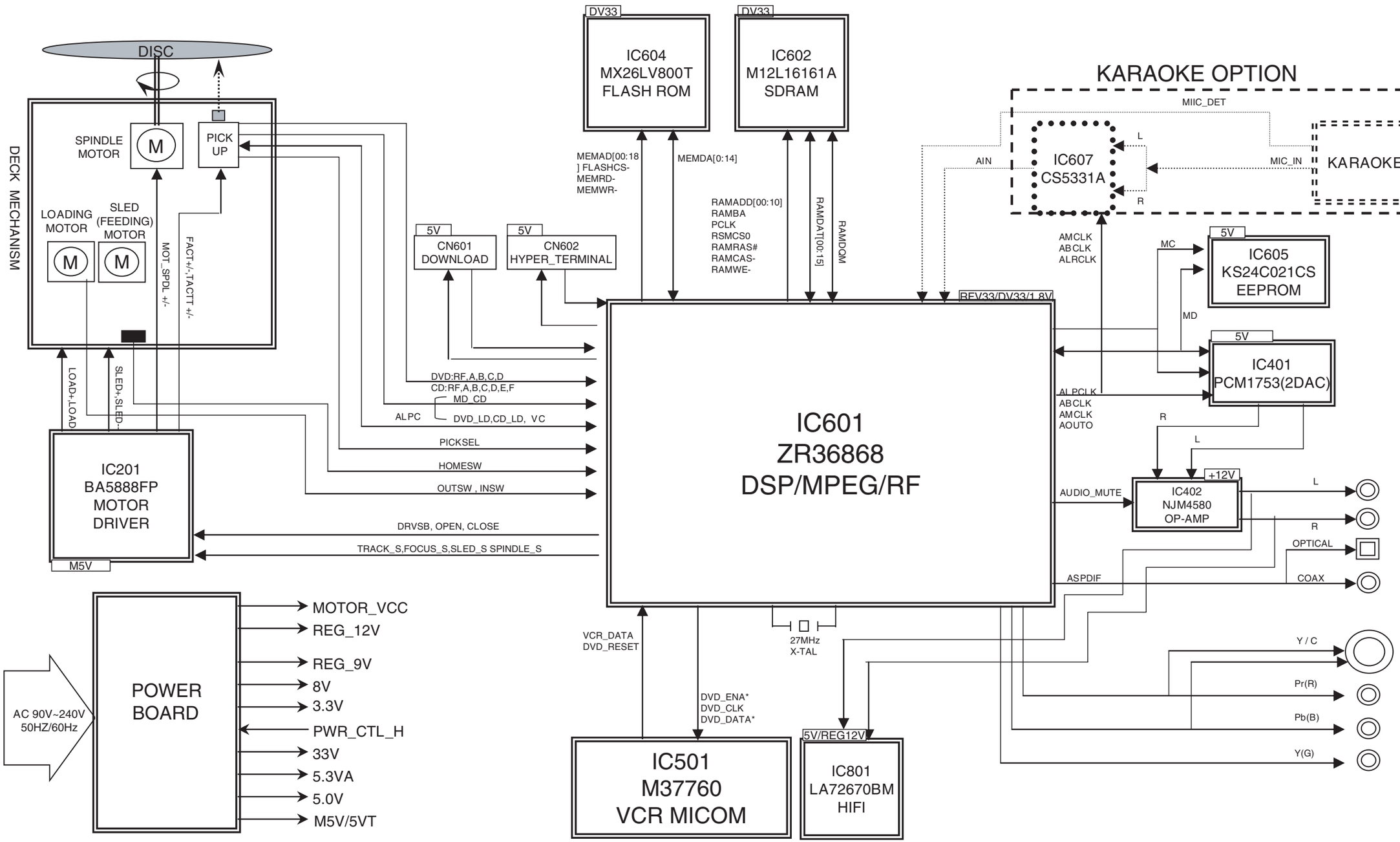
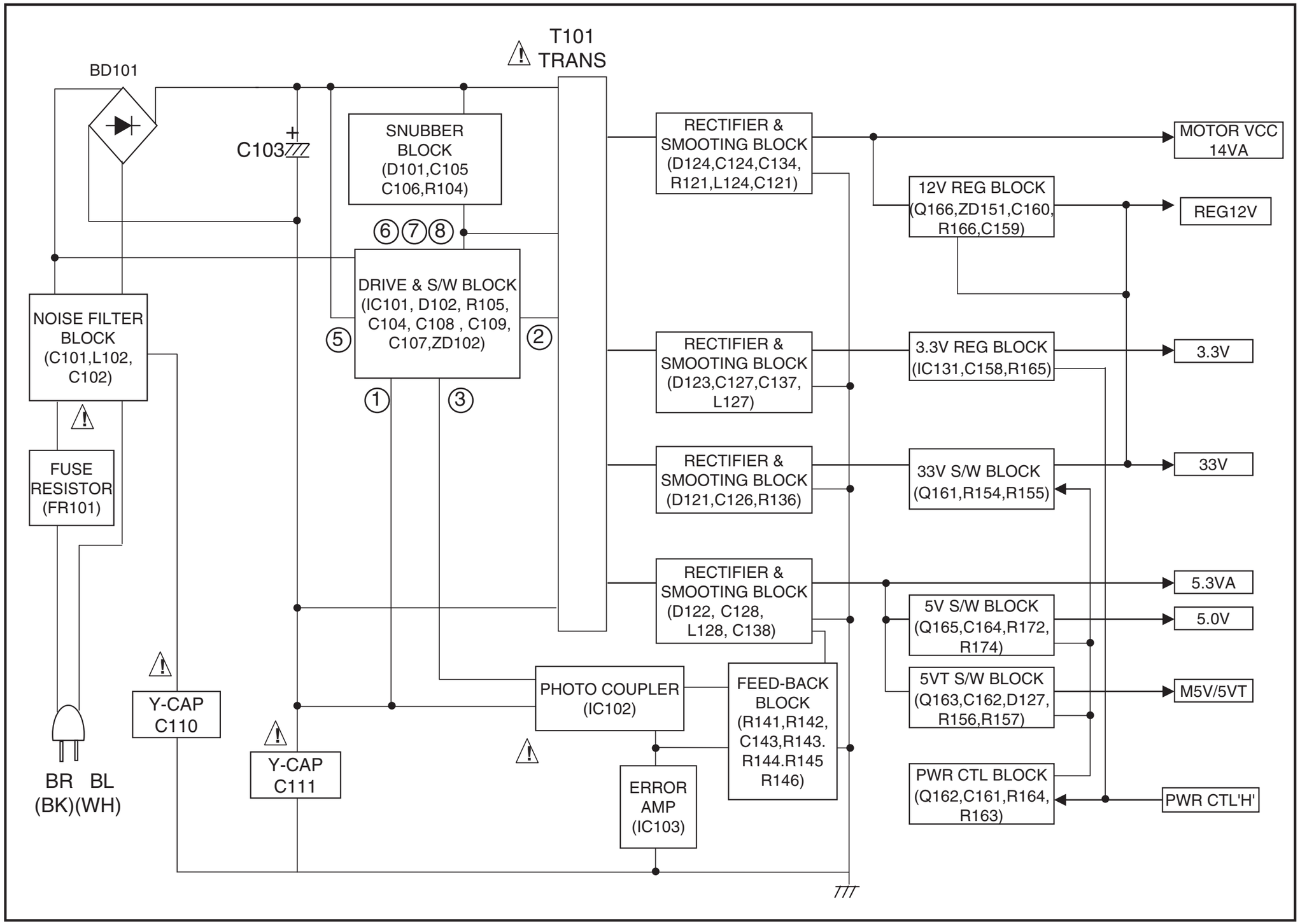
Q203

■ OVERALL BLOCK DIAGRAM



■ POWER(SMPS) BLOCK DIAGRAM



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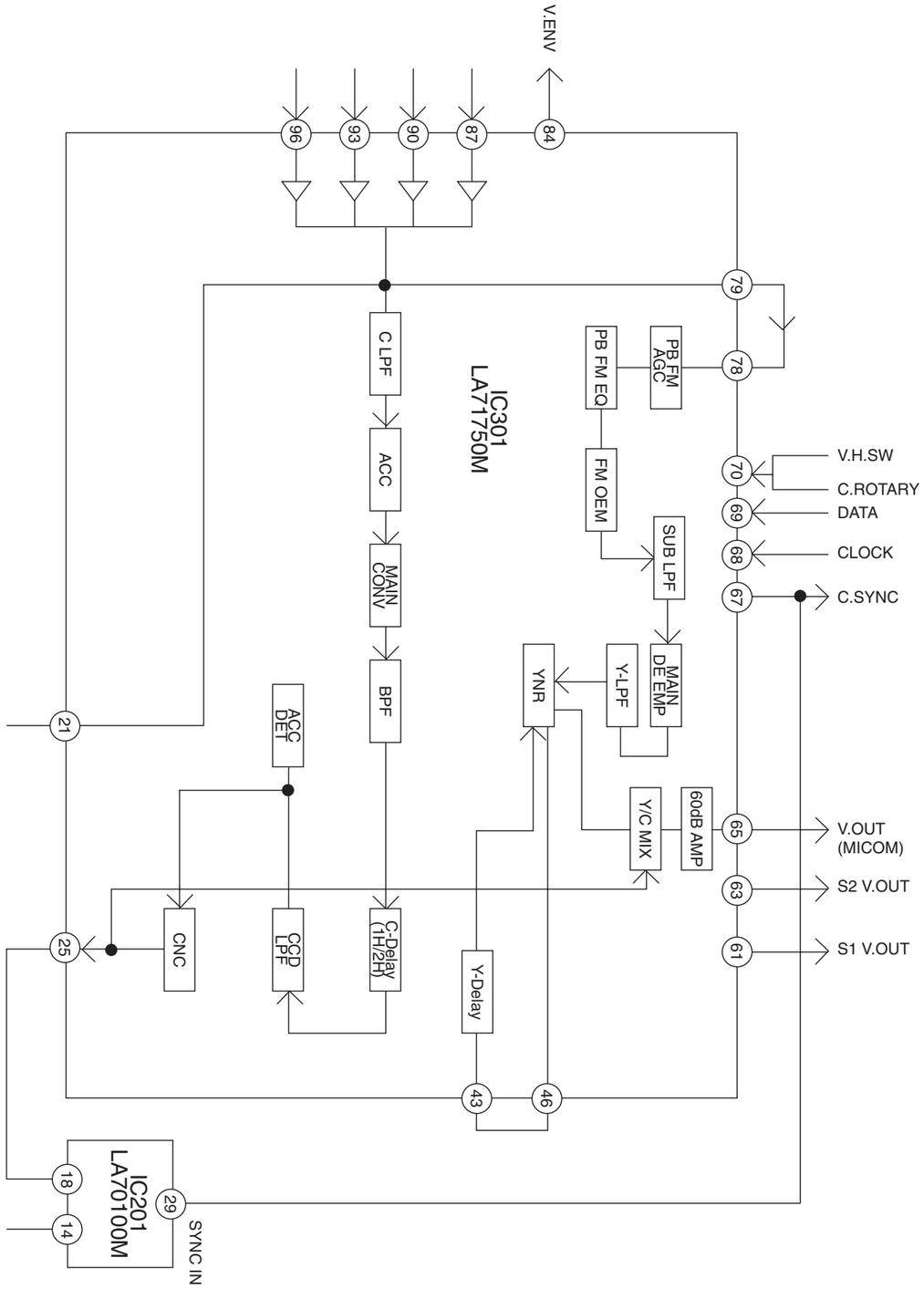
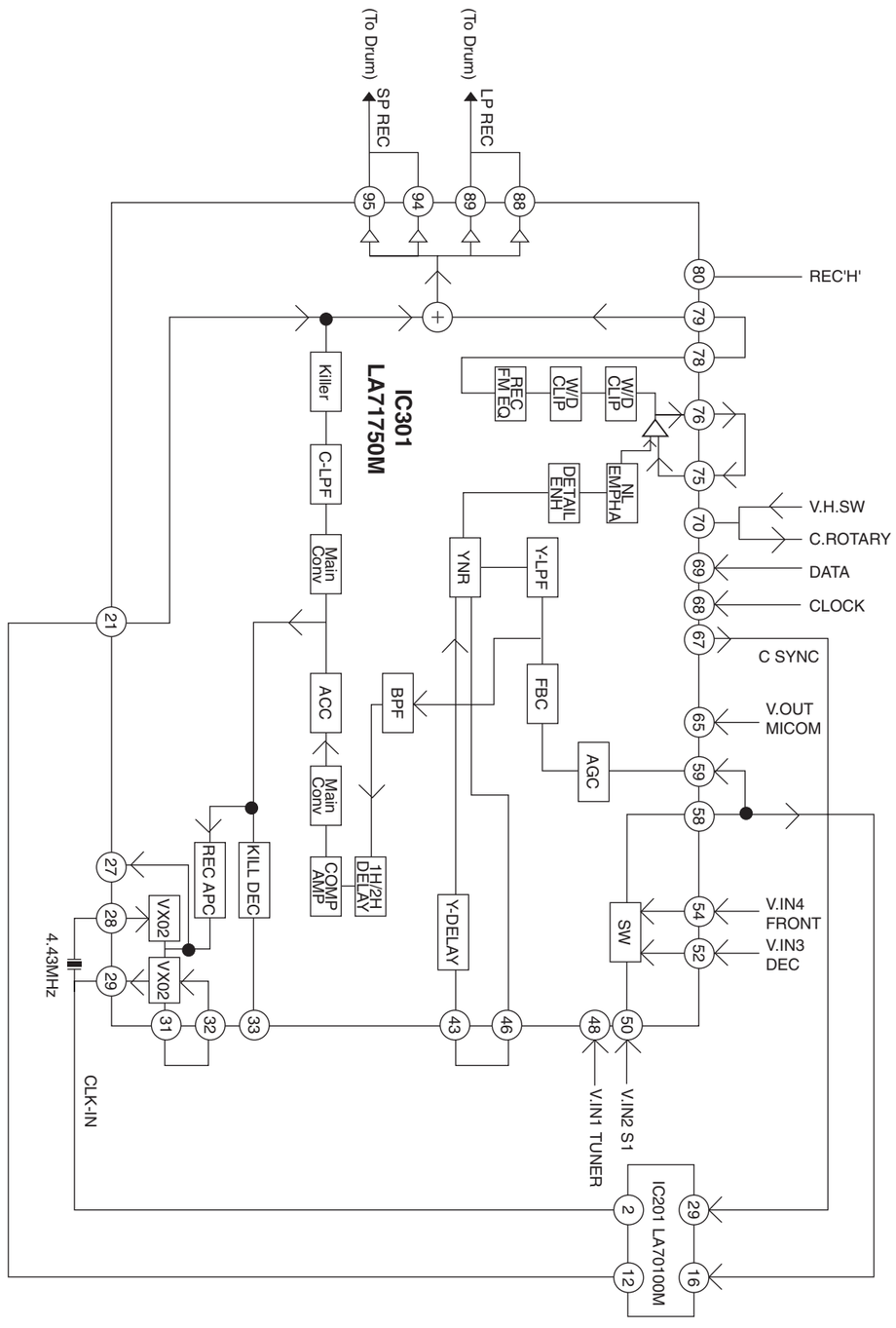
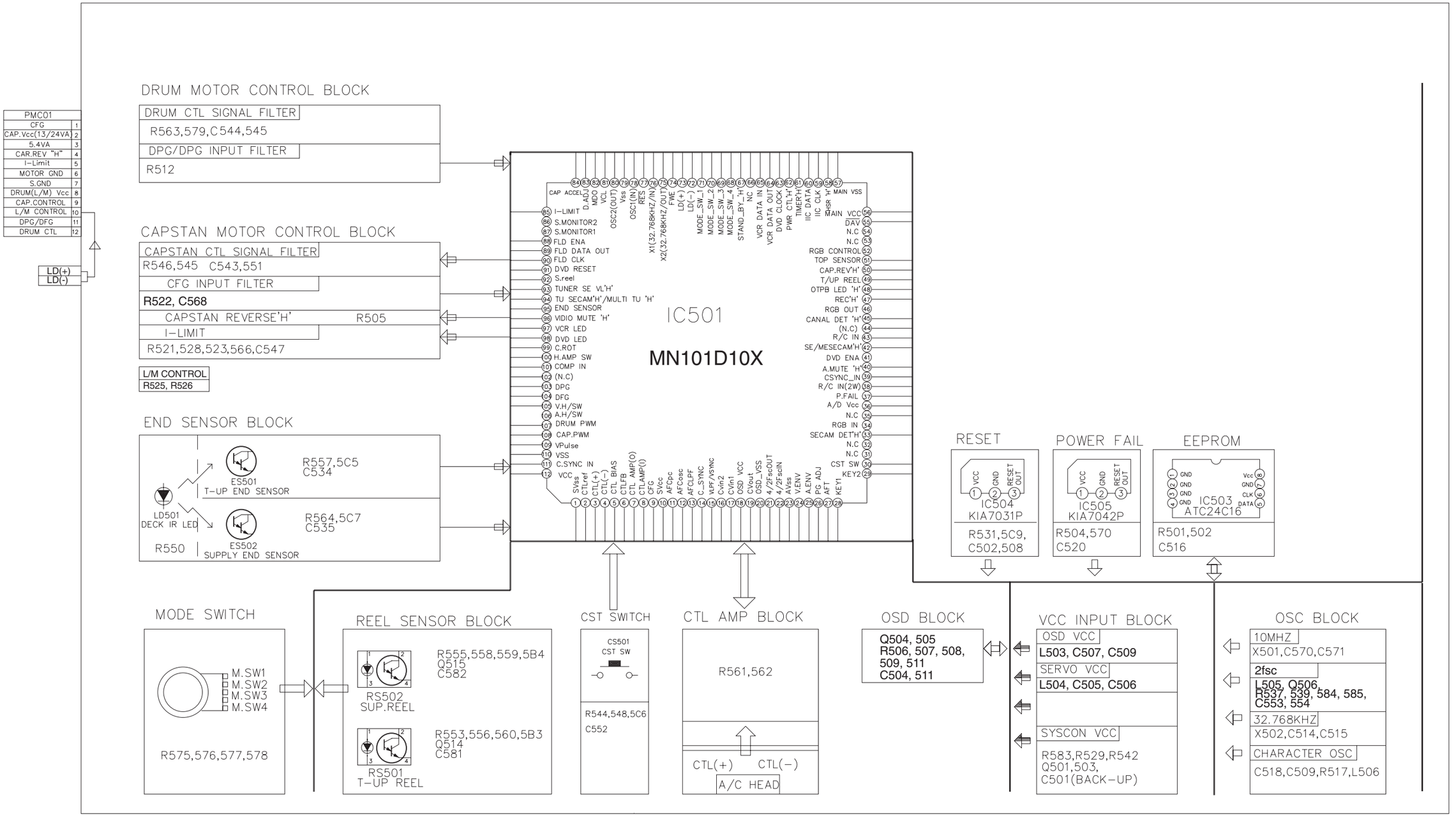
(PB Mode)



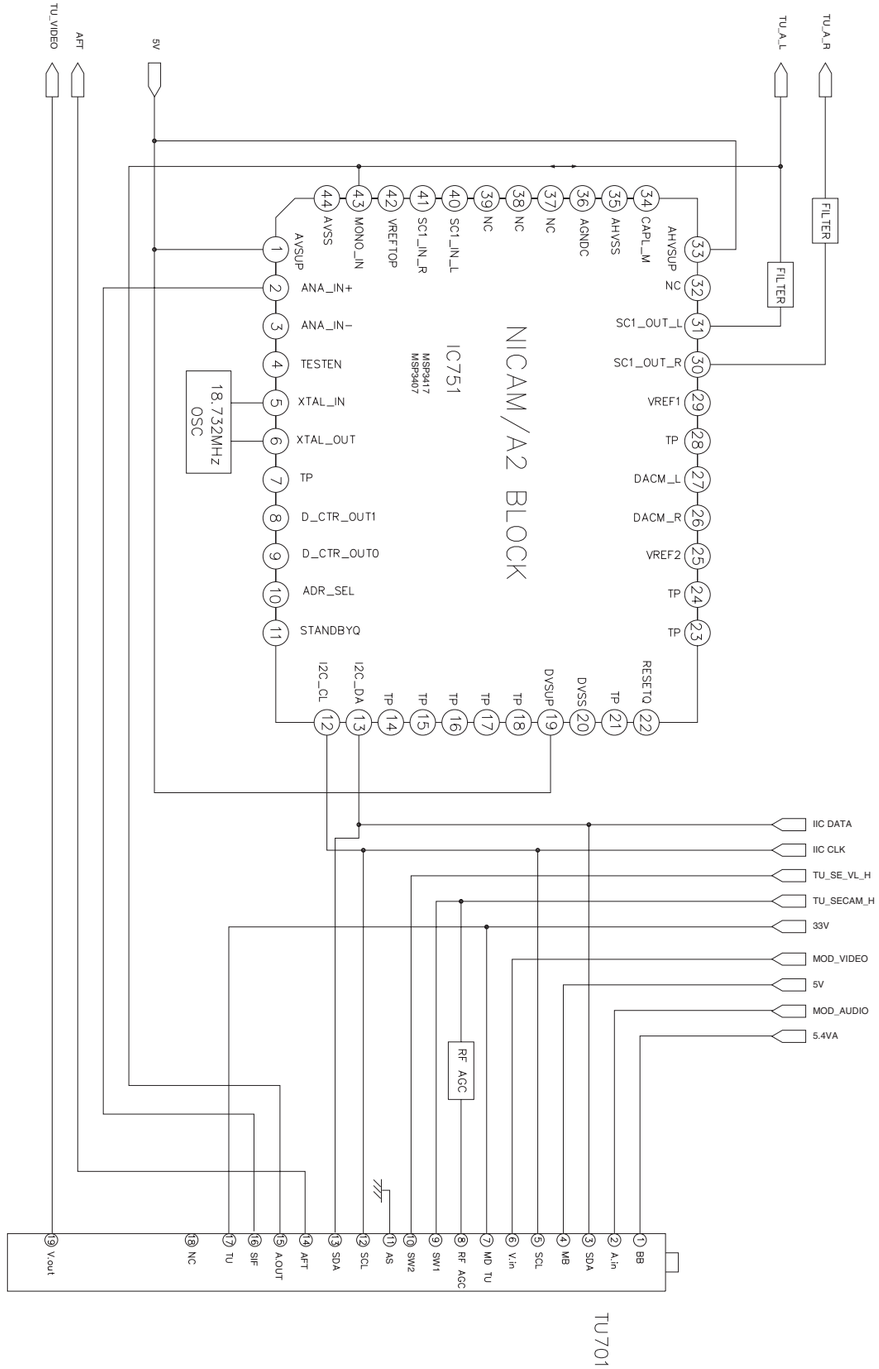
(REC Mode)



■ SYSTEM BLOCK DIAGRAM



■ TUNER/IF, NICAM & A2 BLOCK DIAGRAM



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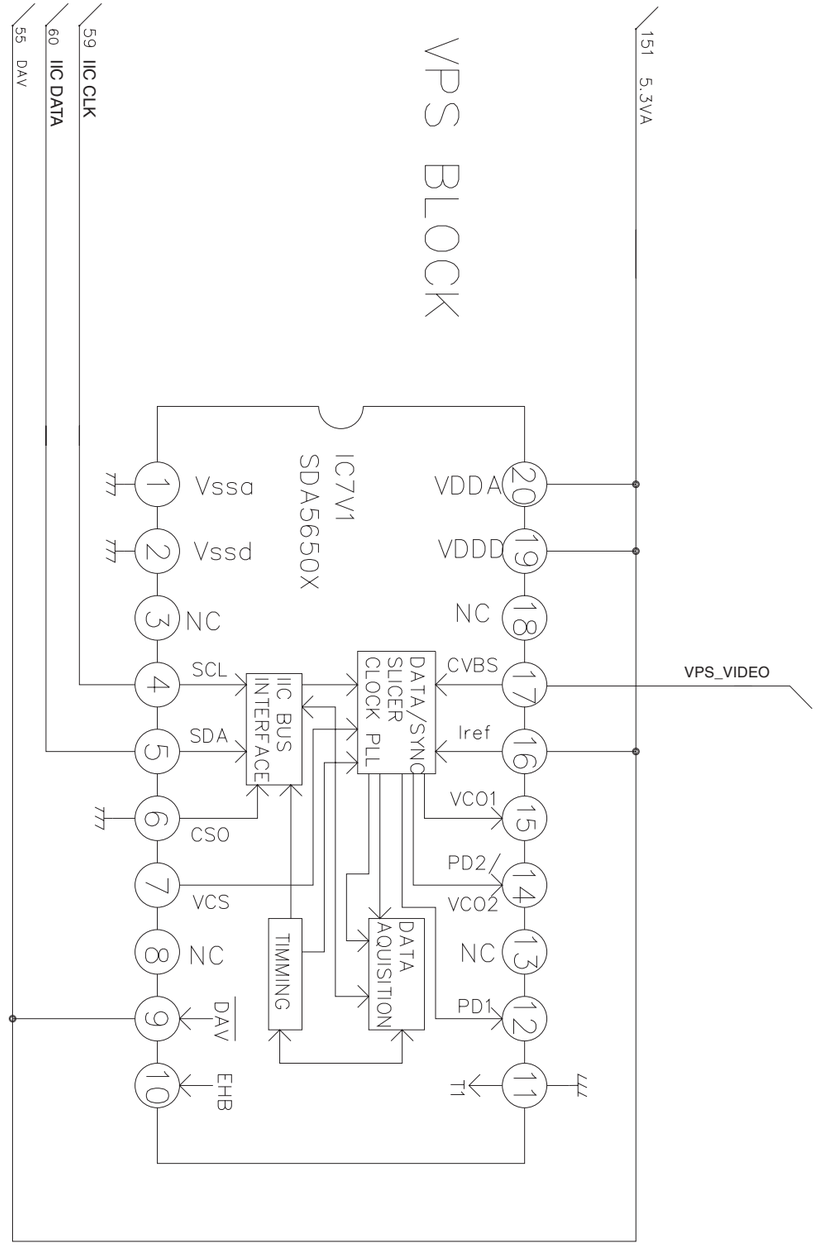
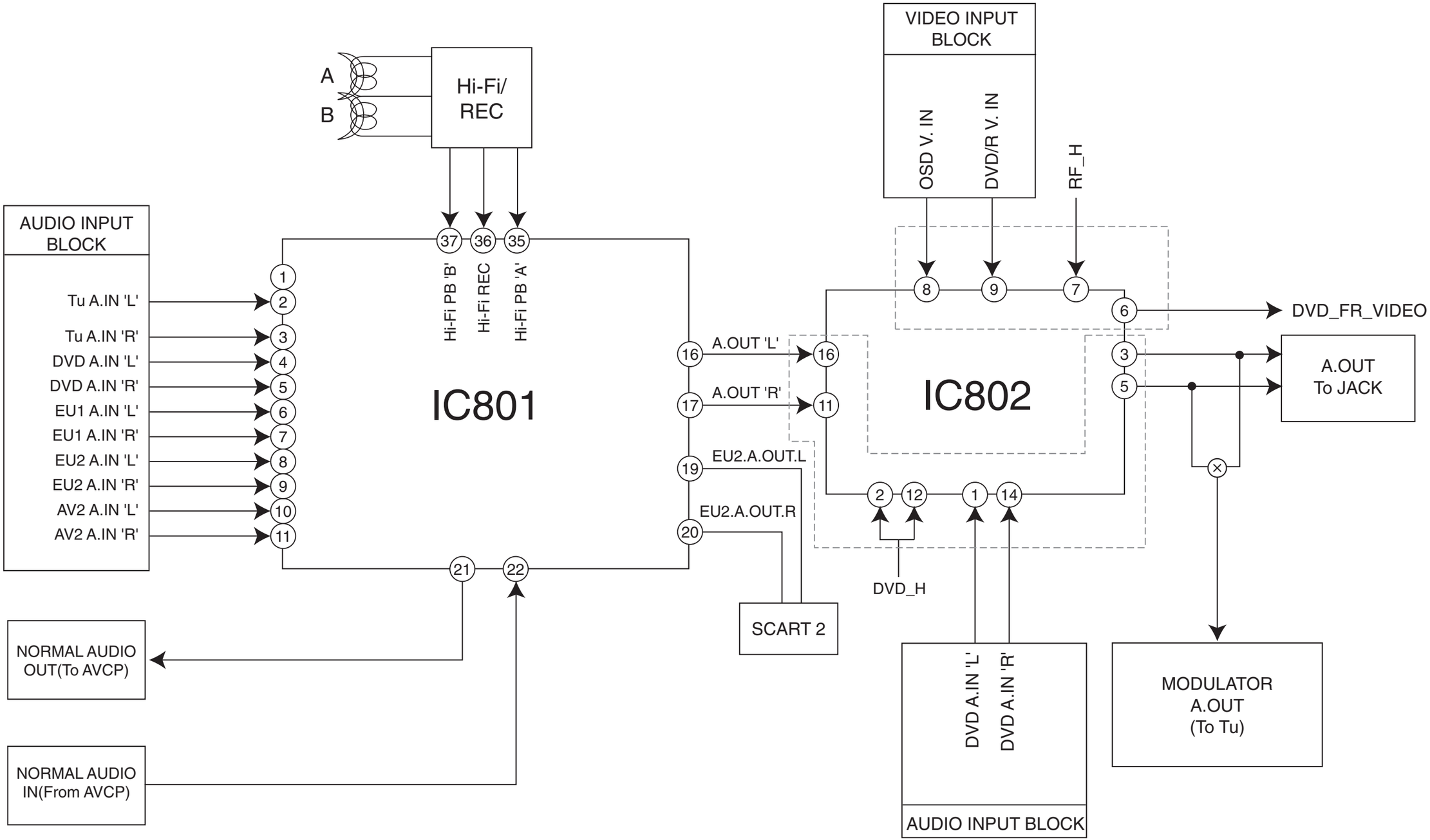
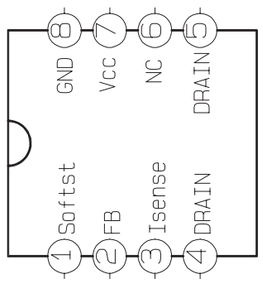


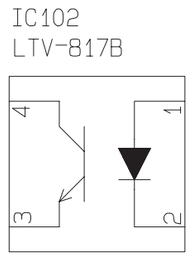
■ Hi-Fi AUDIO BLOCK DIAGRAM



■ IC BLOCK



IC101_ICE3B0565



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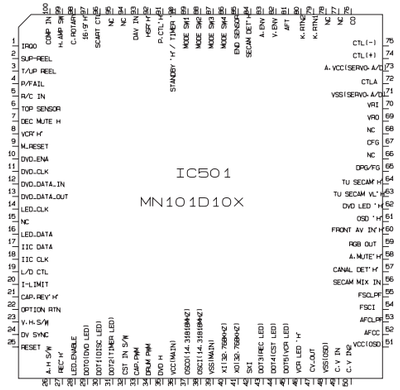

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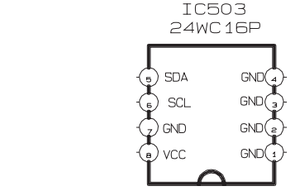
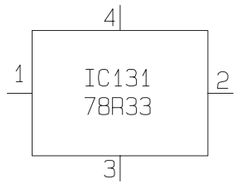
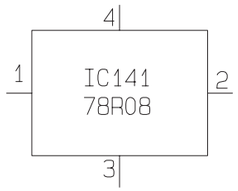


IC503_24WC16P



IC131_78R33



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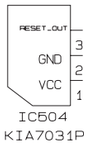

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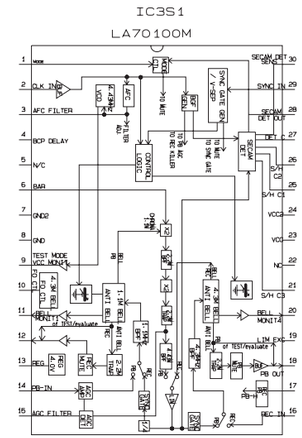

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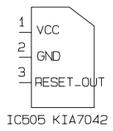

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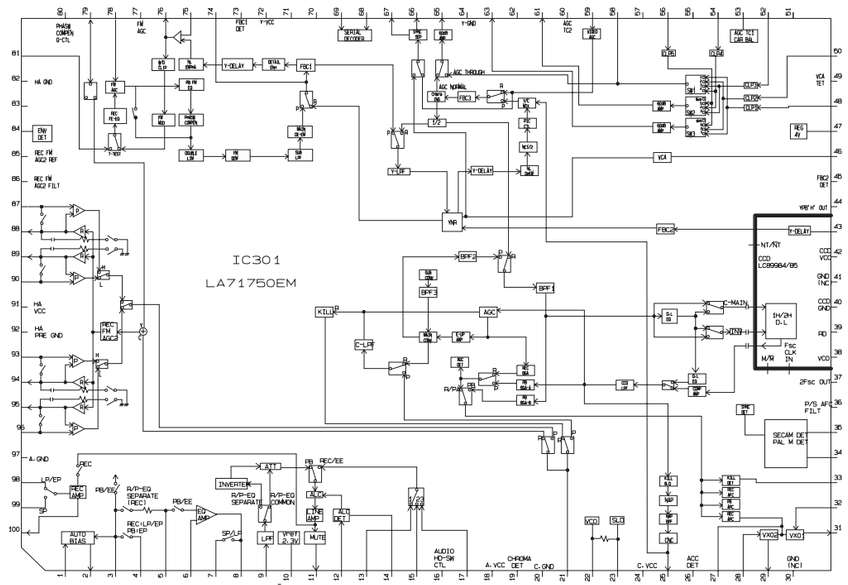

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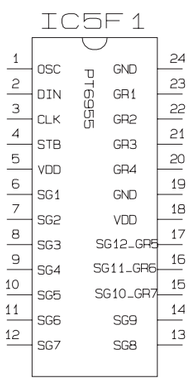
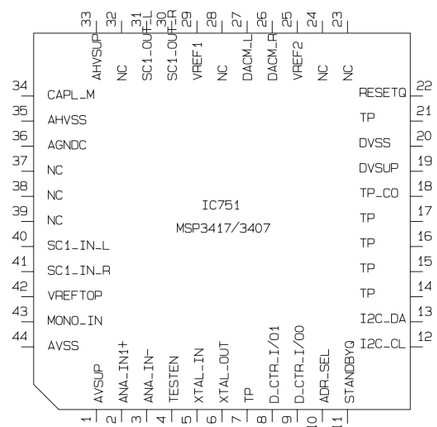
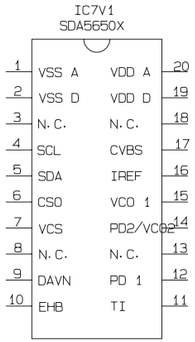


IC5F1_PT6955

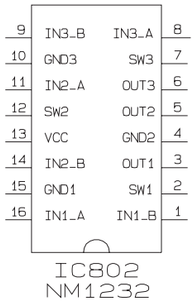


IC751_MSP3417/3407

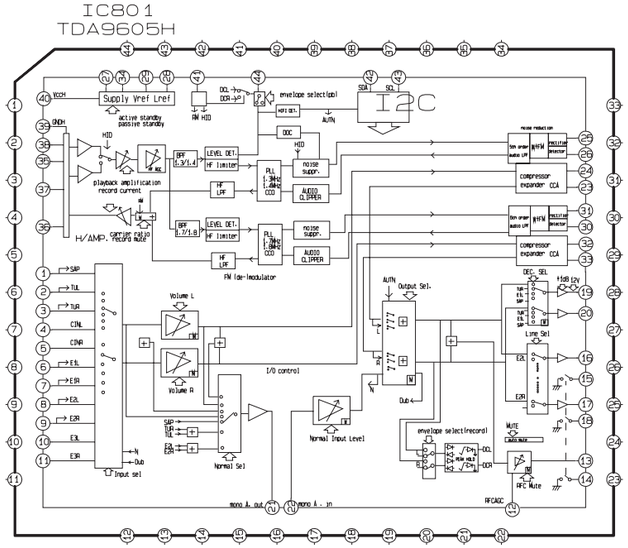
■ IC BLOCK



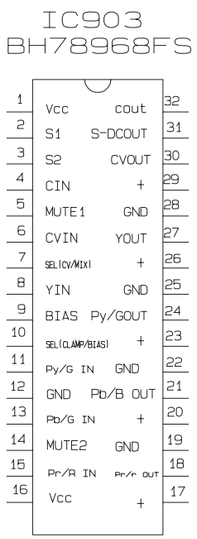
IC7V1_SDA5650X



IC802_NM1232



IC801_§ DA9605H



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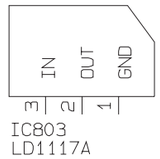
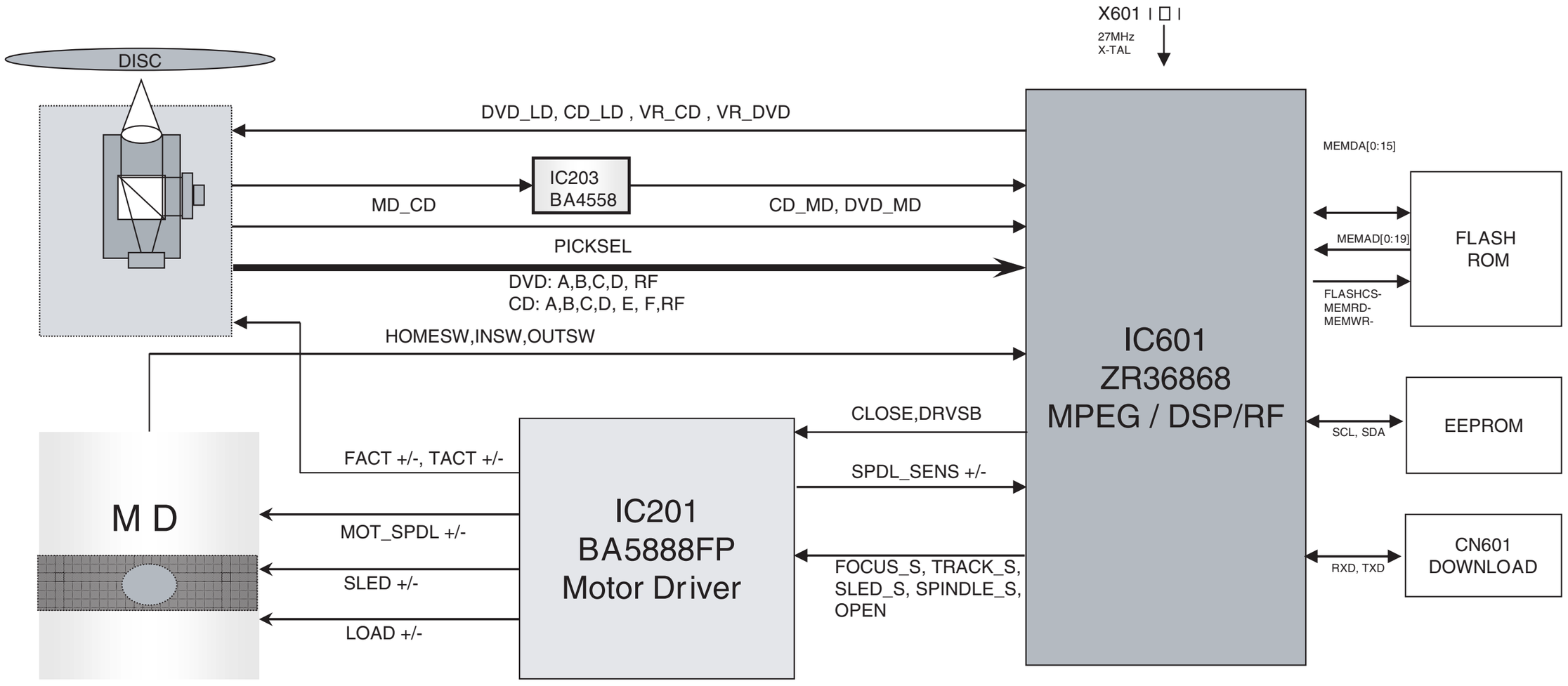
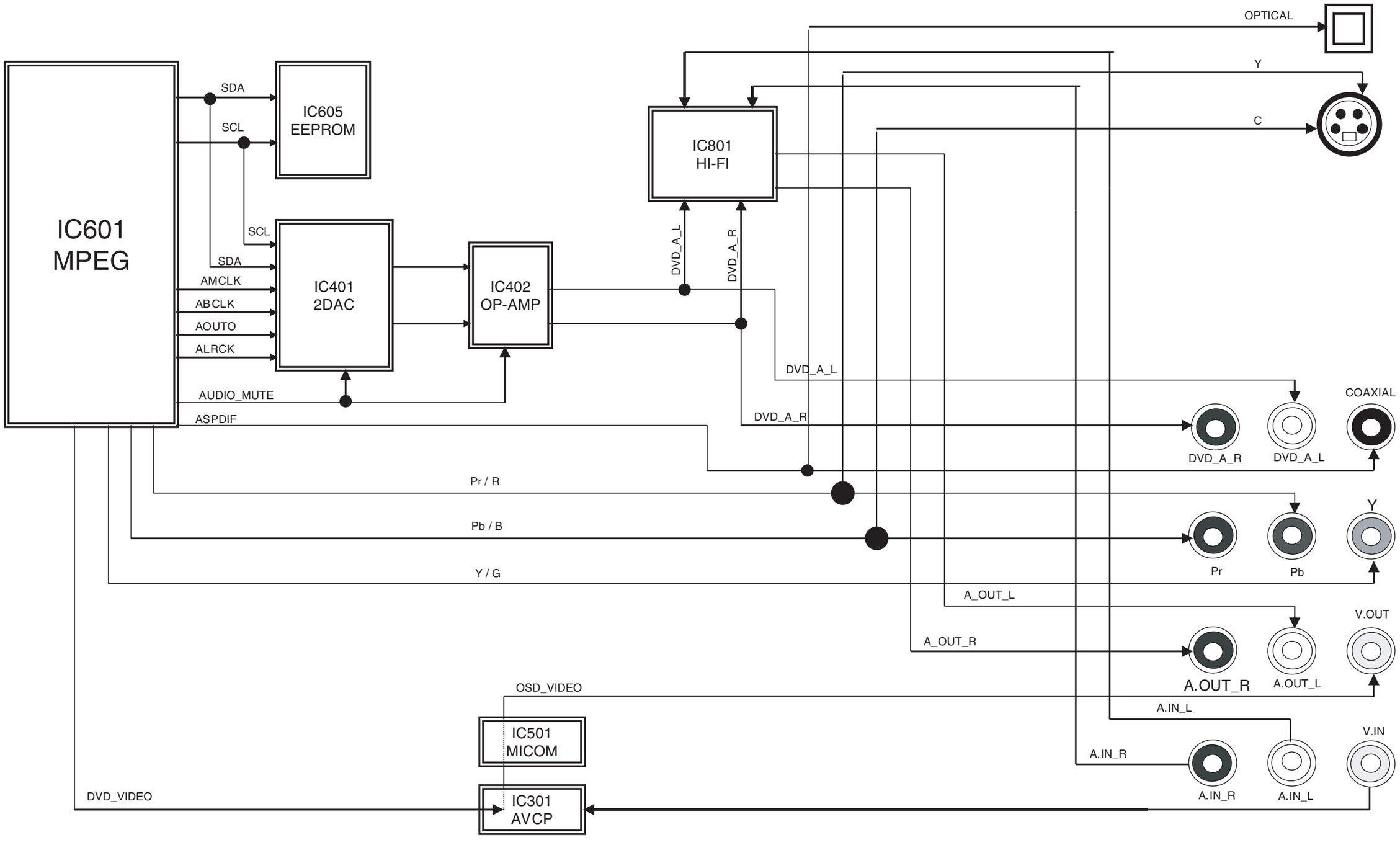


IC803_LD1117A

■ DVD SERVO BLOCK DIAGRAM



■ DVD VIDEO & AUDIO BLOCK DIAGRAM



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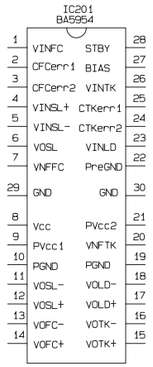

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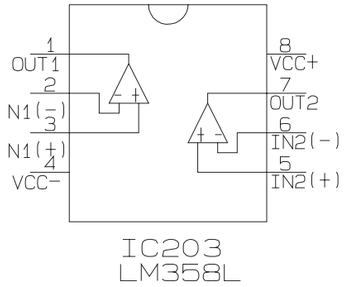

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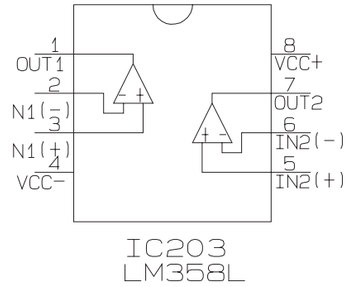
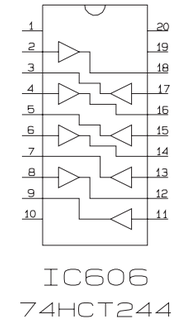


IC604



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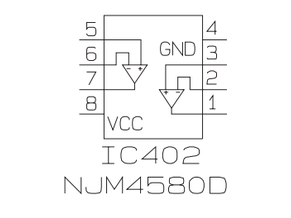

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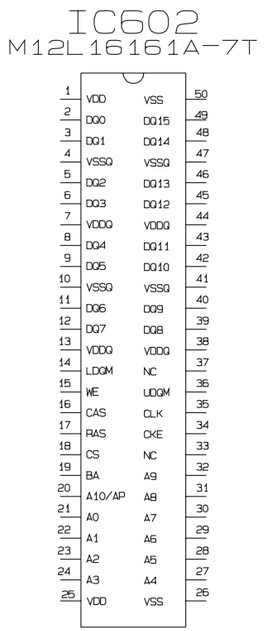
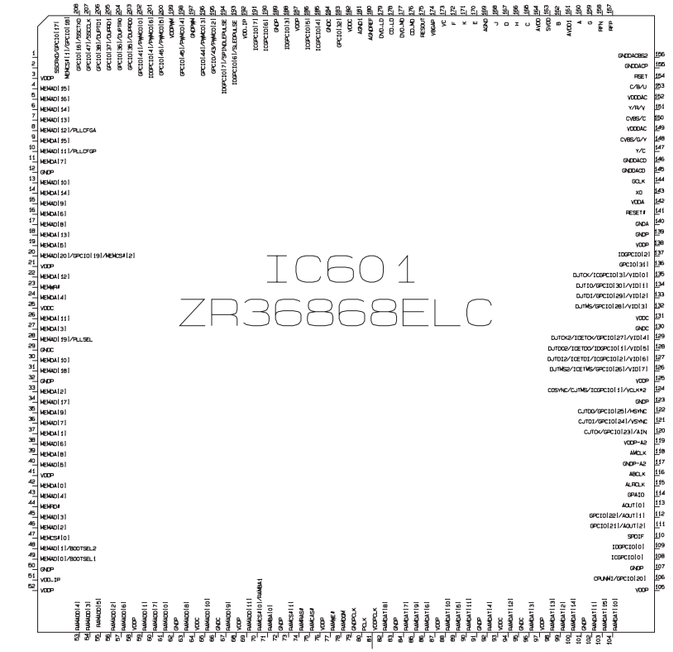


IC602_M12L16161A-7T



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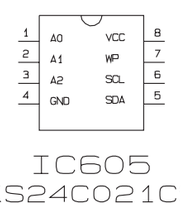


IC605_KS24C021CS

■ VOLTAGE CHARTS

MODE / PIN NO.	EE	PB
IC201		
1	1.6	1.58
2	4.3	2.6
3	4.3	2.6
4	1.62	1.6
5	1.66	1.6
6	2.15	1.6
7	4.3	2.7
8	5.2	5.1
9	5.2	5.1
10	0.01	0.01
11	4.4	2.5
12	4.4	2.6
13	4.3	2.7
14	4.3	2.39
15	4.3	2.67
16	4.3	2.5
17	1.6	3.4
18	1.6	1.8
19	0.01	0.01
20	4.3	2.58
21	5.2	5.18
22	0.01	0.01
23	1.6	1.88
24	4.3	2.58
25	4.3	2.58
26	1.6	1.61
27	1.6	1.61
28	0.01	3.25
IC302		
1	1.28	1.28
2	0.01	0.01
3	1.32	1.32
4	0.03	0.05
5	0.04	0.05
6	5.03	5.03
7	1.32	1.32
8	0.01	0.06
IC401		
1	1.63	1.62
2	0.002	1.08
3	1.64	1.64
4	0.002	0.002
5	0.02	0.01
6	4.92	4.9
7	2.48	2.47
8	2.48	2.48
9	0.002	0.002
10	2.45	2.44
11	4.9	0.008
12	4.9	0.008
13	3.1	0.04
14	3.28	3.28
15	3.28	3.28
16	1.44	1.45

MODE / PIN NO.	EE	PB
IC402		
1	5.51	5.52
2	5.52	5.52
3	5.51	5.47
4	12.12	0.0002
5	5.51	5.52
6	5.52	5.52
7	5.52	5.52
8	0.002	12.13
IC5F1		
1	2.1	2.2
2	4.7	4.77
3	4.7	4.7
4	5	5
5	4.4	4.4
6	2.6	2.6
7	2.5	2.55
8	2.24	2.5
9	2.5	2.5
10	2.3	2
11	2	2.3
12	2.2	1.6
13	0.87	0.85
14	2.28	1.9
15	2.33	2.18
16	2	2.1
17	2	2.2
18	4.43	4.4
19	0.01	0.002
20	2	2
21	1.9	2
22	1.9	2.1
23	2	2.1
24	0.01	0.003
IC601		
1	0.01	1.7
2	3.29	3.26
3	3.29	3.27
4	0.08	0.4
5	0.05	0.4
6	0.05	0.3
7	1.72	1.9
8	1.72	0.8
9	2.78	0.5
10	1.72	0.7
11	0.01	1.6
12	0.01	0.01
13	3.44	3.28
14	0.01	2.1
15	3.43	3.1
16	1.7	2.7
17	3.31	3.1
18	1.7	2.2
19	0.7	1
20	0.01	0.01
21	3.39	3.24

MODE / PIN NO.	EE	PB
22	2.6	2.9
23	3.39	3.25
24	2.4	2.5
25	1.86	1.9
26	1	1.63
27	2.5	1.08
28	0.01	0.01
29	0.01	0.01
30	2.7	1.22
31	0.01	0.05
32	0.01	0.01
33	2.7	3.2
34	3.28	3.24
35	0.4	1.13
36	1.7	1.5
37	2	2.5
38	1.7	3.9
39	0.01	1.2
40	1.7	1.5
41	3.4	3.28
42	0.01	1.5
43	1.7	2.7
44	1.8	3.19
45	1.7	1.6
46	1.7	1.5
47	3.4	3.28
48	1.68	3.04
49	1.68	3.03
50	0.01	0.01
51	3.39	3.27
52	3.39	3.29
53	1.63	1
54	0.13	0.5
55	0.13	1.26
56	0.12	0.5
57	1.64	1
58	3.39	3.28
59	0.12	0.4
60	1.64	1.5
61	0.12	0.4
62	0.01	0.01
63	0.01	0.4
64	1.85	1.8
65	1.38	0.03
66	0.01	0.01
67	0.03	0.34
68	3.39	3.28
69	0.01	0.01
70	3.36	3.22
71	0.09	0.37
72	0.01	0.01
73	0.01	3.23
74	3.37	3.25
75	3.38	3.28
76	3.39	3.28
77	3.38	3.17

MODE / PIN NO.	EE	PB
78	0.01	0.02
79	0.01	0.01
80	1.6	1.49
81	3.39	3.27
82	1.59	1.91
83	0.01	0.01
84	1.4	1.25
85	1.8	1.5
86	1.6	1
87	3.39	3.28
88	1.6	1.3
89	1.8	2
90	1.7	1.5
91	0.01	0.01
92	1.7	1.89
93	0.01	1.8
94	1.3	1.99
95	0.01	0.01
96	1.7	2.2
97	3.39	3.28
98	1.7	1.85
99	1.8	1.3
100	1.6	1.52
101	0.01	0.01
102	1.6	1.81
103	1.6	1.9
104	1.6	1.7
105	3.39	3.28
106	0.01	0.01
107	0.01	0.01
108	0.01	0.01
109	0.01	0.01
110	1.68	1.61
111	0.02	0.01
112	0.02	0.01
113	0.01	1.07
114	0.01	0.01
115	1.69	1.64
116	1.69	1.61
117	0.01	0.01
118	1.65	1.5
119	3.39	3.25
120	0.01	0.01
121	0.01	0.01
122	0.01	0.01
123	0.01	0.01
124	1.7	1.64
125	3.39	3.28
126	0.01	0.01
127	0.07	3.25
128	0.01	0.01
129	0.01	0.01
130	0.01	0.01
131	1.85	2.44
132	3.37	0.06
133	3.38	3.28

MODE / PIN NO.	EE	PB
134	3.38	3.28
135	3.03	0.01
136	0.03	0.01
137	0.01	3.25
138	3.39	3.28
139	0.01	0.01
140	0.01	0.01
141	3.29	3.27
142	1.86	2.45
143	1.66	2.46
144	1.66	2.34
145	0.01	0.01
146	0.01	0.01
147	0.75	1.29
148	0.01	0.01
149	3.37	3.26
150	0.98	1.13
151	0.98	1.13
152	3.36	3.26
153	1.28	1.82
154	1.28	1.81
155	0.01	0.01
156	0.01	0.01
157	1.65	1.31
158	1.65	1.31
159	3.25	3.25
160	2.64	3.23
161	3.25	3.2
162	2.64	3.21
163	3.25	3.21
164	3.25	3.2
165	2.64	3.21
166	0.01	0.01
167	2.64	3.14
168	1.88	2.24
169	0.01	0.01
170	2.64	2.1
171	1.88	2.4
172	2	2.1
173	1.8	2.1
174	1.74	1.91
175	1.71	1.88
176	0.11	0.16
177	0.1	0.38
178	3.15	3.1
179	3.13	2.25
180	0.01	0.01
181	0.01	0.01
182	1.8	2.1
183	0.01	3.24
184	0.01	0.01
185	0.01	0.2
186	3.29	3.28
187	3.28	3.28
188	0.01	0.02
189	0.01	0.01

MODE / PIN NO.	EE	PB
190	0.1	0.1
191	1.2	1.4
192	3.3	3.28
193	0.01	0.01
194	0.01	0.01
195	1.7	1.58
196	1.8	1.6
197	0.01	0.01
198	1.4	2.41
199	3.3	3.28
200	0.01	0.01
201	0.01	0.01
202	1.51	1.52
203	3.9	2.9
204	3.3	3.28
205	0.01	3.28
206	3.24	3.28
207	3.25	3.27
208	3.24	0.39
IC602		
1	3.28	3.27
2	1.86	1.2
3	1.87	1.5
4	0	0.01
5	1.58	1.1
6	1.8	1.5
7	3.28	3.27
8	1.5	1.8
9	1.78	1.2
10	0.01	0.01
11	2.17	1.3
12	0.28	0.5
13	3.28	3.27
14	0.01	0.01
15	3.27	3.16
16	3.27	0.2
17	3.26	3.24
18	3.25	3.21
19	0.14	0.5
20	1.56	2.1
21	0.12	0.3
22	0.12	0.29
23	0.01	0.37
24	0	0.4
25	3.31	3.2
26	0.01	0.01
27	1.59	101
28	0.11	1.1
29	1.62	1.1
30	0.01	1.1
31	0.19	0.02
32	0.01	0.2
33	0.01	0.02
34	3.36	3.2
35	1.56	1.52
36	0.01	0.01

MODE / PIN NO.	EE	PB
37	0.01	0.02
38	3.38	3.28
39	1.56	1.8
40	1.75	1.17
41	0.01	0.002
42	1.62	1.17
43	1.42	1.1
44	3.41	3.28
45	1.31	1.9
46	1.78	1.8
47	0	0.001
48	1.55	1.7
49	0.54	1.1
50	0.01	0.001
IC604		
1	0.01	1.7
2	0.01	1.2
3	0.01	0.01
4	0.01	1.8
5	0.01	0.5
6	3.29	3.2
7	0.01	3.2
8	3.29	3.2
9	0.01	0.003
10	0	0.27
11	3.2	3.2
12	3.2	3.2
13	3.2	3.2
14	3.2	3.2
15	1.25	2.1
16	0.01	0.002
17	0.02	3.2
18	0.003	3.2
19	0.002	3.2
20	3.29	3.2
21	3.29	0.002
22	3.29	0.002
23	3.29	3.2
24	3.25	3.2
25	3.25	3.2
26	3.29	3.2
27	0.01	0.002
28	3.2	3.2
29	2.9	2.9
30	2.9	2.9
31	2.8	2.9
32	2.8	1.2
33	2.8	1.2
34	2.8	2.8
35	2.86	2.8
36	0.01	0.01
37	3.29	3.28
38	2.9	0.68
39	2.9	2.9
40	2.84	2.9
41	2.86	2.9

MODE / PIN NO.	EE	PB
42	2.85	3.28
43	2.88	2.9
44	2.85	2.87
45	2.85	2.87
46	0.01	0.01
47	3.29	3.28
48	0.002	3.28
IC605		
1	0.001	0.001
2	0.001	0.001
3	0.001	0.001
4	0.001	0.001
5	3.27	0.04
6	3.28	3.28
7	0.001	0.001
8	3.29	3.28

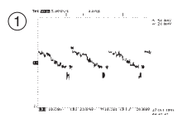
MODE / PIN NO.	EE	PB	REC
IC301			
1	4.8 V	4.84 V	0.99 V
2	0.11 V	0.014 V	0.81 V
3	2.16 V	2.16 V	2.03 V
4	0.69 V	0.63 V	1.73 V
5	2.15 V	2.15 V	2.26 V
6	2.16 V	2.15 V	2.06 V
7	2.15 V	2.15 V	2.1 V
8	2.15 V	2.15 V	2.1 V
9	2.14 V	2.14 V	2.73 V
10	2.16 V	2.16 V	2.66 V
11	2.23 V	2.27 V	2.8 V
12	1.56 V	0.002 V	2.0 V
13	2.14 V	2.14 V	0.095 V
14	0.022 V	0.022 V	2.05 V
15	2.14 V	2.14 V	2.08 V
16	4.85 V	0.146 V	4.68 V
17	2.14 V	2.14 V	2.09 V
18	4.8 V	4.86 V	4.73 V
19	3.88 V	3.92 V	2.72 V
20	2.31 V	0.003 V	0.006 V
21	3 V	1.68 V	3.02 V
22	3.2 V	2.62 V	3.2 V
23	3.2 V	2.55 V	3.2 V
24	4.85 V	4.85 V	4.75 V
25	0.121 V	3.4 V	0.19 V
26	1.65 V	1.25 V	1.6 V
27	2.16 V	2.1 V	2.14 V
28	3.75 V	3.7 V	3.66 V
29	2.43 V	2.46 V	2.34 V
30	0.002 V	0.002 V	0.005 V
31	4.76 V	4.58 V	4.72 V
32	4.68 V	4.58 V	4.71 V
33	2.88 V	2.86 V	2.8 V
34	0.061 V	0.06 V	0.061 V
35	3.02 V	2.34 V	2.99 V
36	3.5 V	2.84 V	3.4 V
37	1.7 V	1.76V	1.61 V
38	2 V	2.05 V	1.94 V
39	8.65 V	8.6 V	8.38 V
40	0.002 V	0.003 V	0.006 V
41	0.002 V	0.003 V	0.006 V
42	4.8 V	4.8 V	4.68 V
43	2.4 V	2.67 V	2.17 V
44	13.8 mV	3.86 V	0.03 V
45	2.5 V	2.52 V	2.55 V
46	2.6 V	2.78 V	2.64 V
47	4.14 V	4.14 V	4.14 V
48	3.3 V	3.09 V	3.30 V
49	2.97 V	2.93 V	3.69 V
50	1.93 V	1.92 V	1.92 V
51	0.002 V	0.003 V	0.005 V
52	1.93 V	1.93 V	1.92 V
53	2.33 V	2.33 V	2.34 V
54	1.93 V	1.92 V	1.92 V
55	5.14 V	5.14 V	5.13 V

VOLTAGE CHARTS

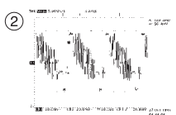
Tran-sistor	STOP			PLAY		
	Base	Emitter	Collector	Base	Emitter	Collector
Q201	3.1	3.28	0.009	2.28	3.05	2.34
Q202	3.14	3.28	0.01	3.1	3.25	0.6
Q203	4.9	0.01	4.9	4.86	5.1	4.85
Q204	4.9	0.04	4.9	4.86	5.2	4.86
Q205	0.003	0.002	4.9	0.003	0.003	4.8
Q206	0.003	0.002	4.9	0.003	0.016	4.86
Q301	4.4	5.08	4.98	4.4	5.08	4.98
Q302	0.74	0.006	0.001	0.74	0.006	0.001
Q303	0.72	0.006	0.008	0.72	0.006	0.008
Q306	1.63	2.22	0.01	1.63	2.22	0.01
Q307	2.15	1.48	0.001	2.15	1.48	0.001
Q308	0.01	4.99	5.24	4.51	3.85	5.23
Q311	0.00	0.00	0.00	-2.20	0.24	3.51
Q403	0.002	1.55	0.76	0.002	0.009	-0.4
Q404	0.002	1.6	0.76	0.002	0.009	-0.6
Q405	2.54	3.27	3.25	3.23	3.26	-0.4
Q501	0.009	0.002	0.02	0.009	0.002	0.02
Q504	2.15	2.83	0.002	2.15	2.83	0.002
Q505	1.63	1.65	5.15	1.63	1.65	5.15
Q507	2.15	2.8	0.002	2.15	2.8	0.002
Q550	0.01	0.002	1.66	0.01	0.002	1.66
Q901	0.76	0.002	0.008	-0.48	0.002	0.004
Q701	5.78	5.03	5.24			

WAVEFORMS

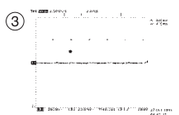
*** IC301 Oscilloscope Waveform**



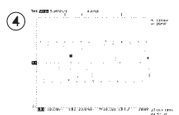
IC301 Pin 75
PB mode
500mvp-p



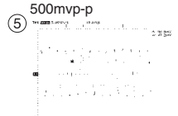
IC301 Pins 48, 50, 54, 56
Video in 1Vp-p



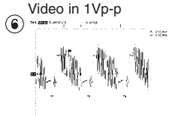
IC301 Pin 67
PB/REC mode
4.0Vp-p



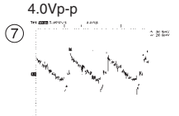
IC301 Pin 100
REC mode
1.1Vp-p



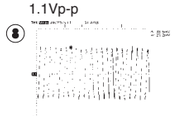
IC301 Pin 3
REC mode
2.0Vp-p



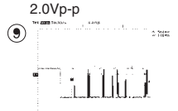
IC301 Pin 65
PB mode
2.02Vp-p



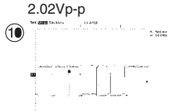
IC301 Pin 43
PB mode
400mVp-p



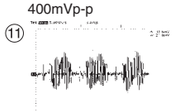
IC301 Pin 28
PB mode
400mVp-p



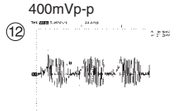
IC301 Pin 68
PB/REC mode
5Vp-p



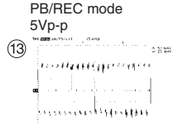
IC301 Pin 69
PB/REC mode
5Vp-p



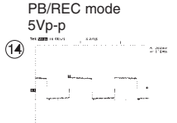
IC301 Pins 21
REC mode
340mVp-p



IC301 Pins 25
PB mode
300mVp-p

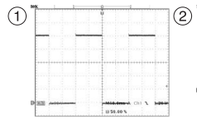


IC301 Pin 29
PB mode
400mVp-p

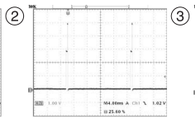


IC301 Pin 70
PB mode
3.6Vp-p

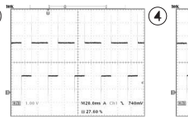
*** IC501 Waveform Photographs**



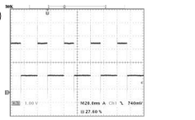
V.HSW
(IC501 Pin 23)
1V/10mS
REC/PB MODE



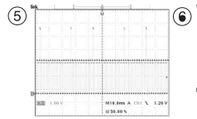
DV.SYNC
(IC501 PIN 24)
1V/100uS
QUE/REV MODE



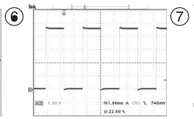
CTL(+)
(IC501 Pin 74)
1V/10mS



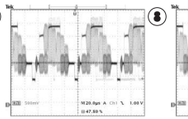
CTL(-)
(IC501 Pin 75)
1V/10mS



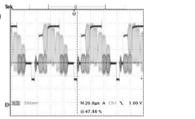
DFG/DFG
(IC501 PIN 65)
1V/10mS
REC/PB MODE



CFG
(IC501 Pin 67)
1V/10mS



V.IN
(IC501 Pin 49)
500mV/20uS



V.OUT
(IC501 Pin 47)
500mV/20uS
EE/PB MODE

JVC
Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YD068)

Printed in Japan
VPT

PARTS LIST

[HR-XV28SEF,HR-XV28SEK,HR-XV28SER, HR-XV28SEU,HR-XV28SEY,HR-XV28SEZ]

* SAFETY PRECAUTION
  Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.
* BEWARE OF BOGUS PARTS
  Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.
* (x_) in a description column shows the number of the used part.

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DVD mechanism assembly and parts list..... 3-7
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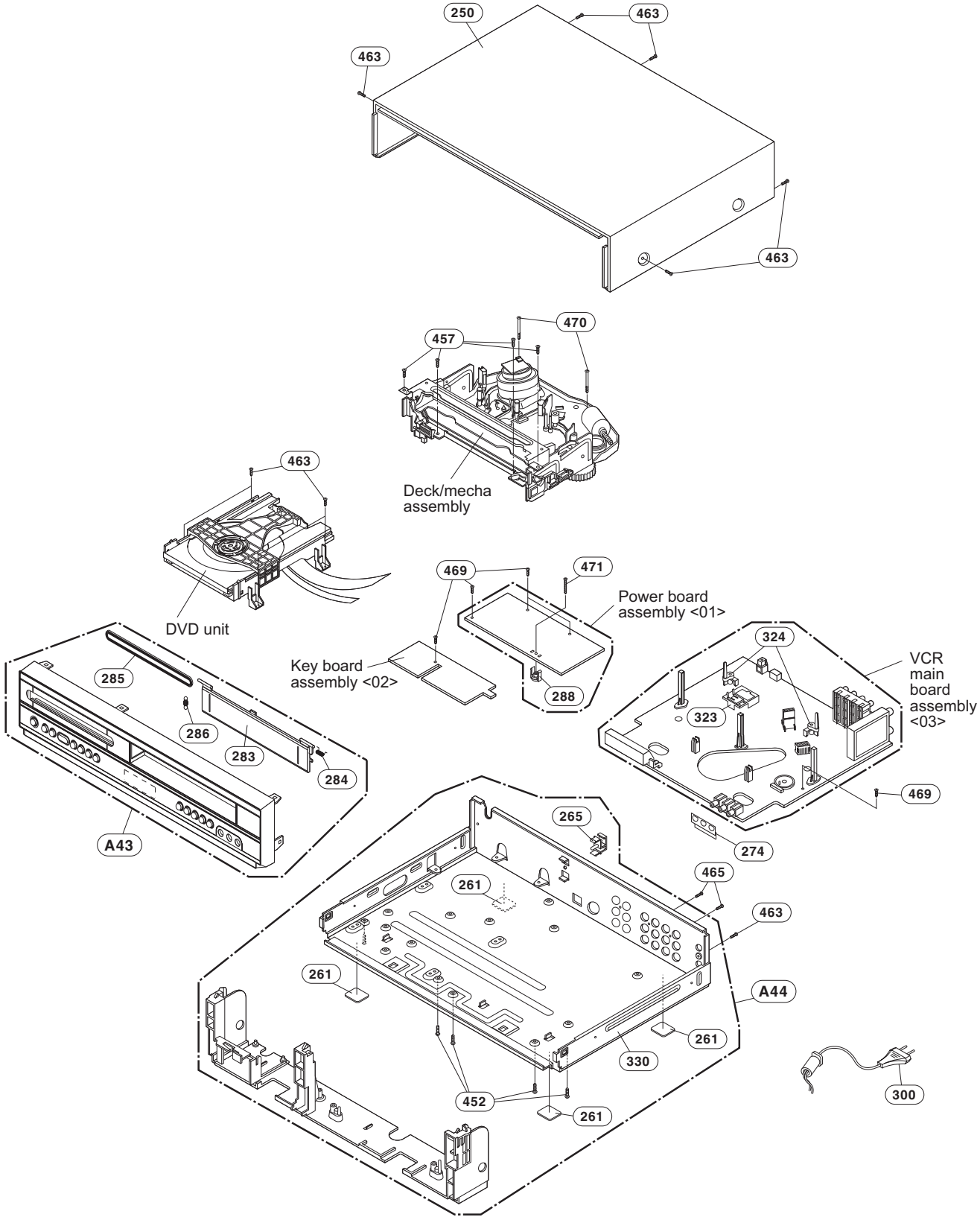
Packing materials and accessories parts list 3-22

Exploded view of general assembly and parts list

Block No. M1MM



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

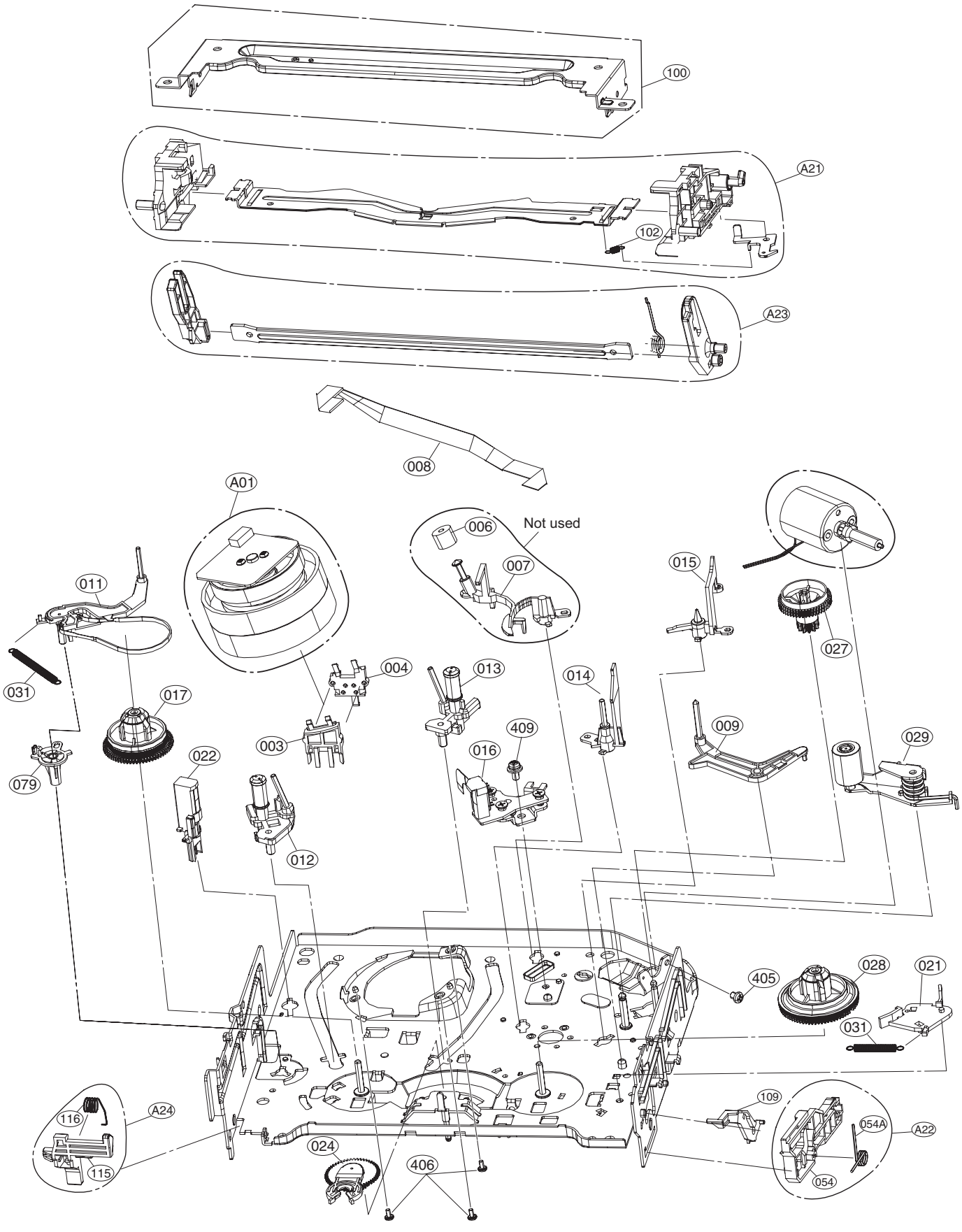
General assembly

Block No. [M][1][M][M]

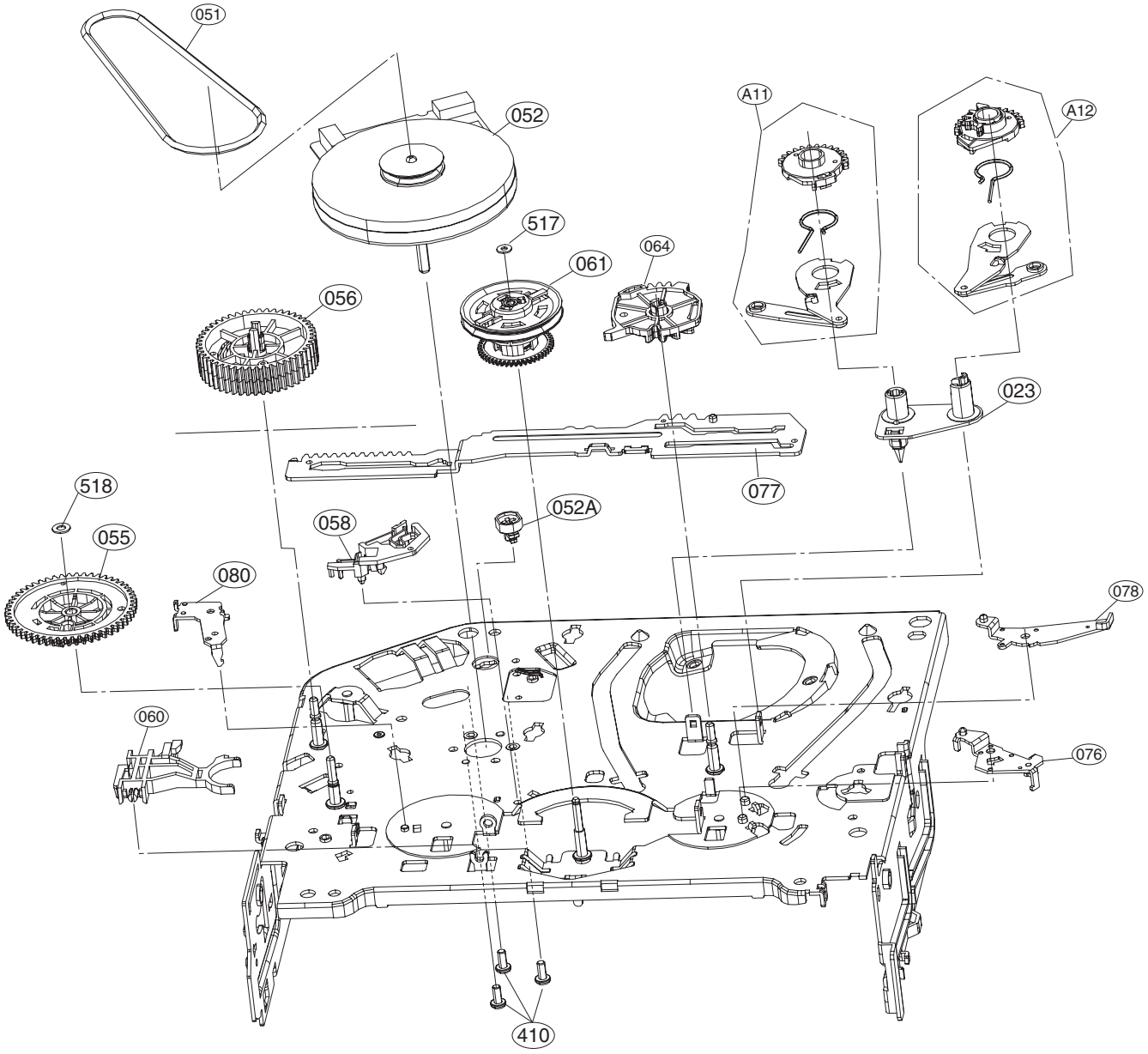
⚠	Symbol No.		Part No.	Part Name	Description	Local
	250		LG-3110R-V024B	CASE	VBW8024 PRESS TOP A288G B:3/S:	
	261		LG-5040R-0069S	RUBBER	CCD 05 NEW SILICON OTHER 2T (3(x4)	
	265		LG-4930R-0384A	HOLDER	POWER CORD	
	274		LG-3300R-V075A	PLATE	ONE BOARD SLIM PRESS A/V JACK	
	283		LG-3580R-V145A	DOOR	VCR VJ90 MOLD CST JVC COMBI	
	284		LG-442-681A	SPRING	DOOR	
	285		LG-3580R-T192A	DOOR	VCR VJ90 MOLD TRAY JVC COMBI	
	286		LG-4970R-0146A	SPRING	PLATE DR4000 SPRING	
	288		LG-4930R-0573A	HOLDER	VCR V9500 MOLD POWER PWB	
⚠	300		LG-6410RBHV02E	POWER CORD	HIT-102/H03VHH2-F (ST-HS:80MM)	B
⚠	300		LG-6410RCHP02D	POWER CORD	HIT-102/H03VHH2-F (ST-HS:80MM)	A,C,D,E,F
	323		LG-3111R-0089E	CASE ASSEMBLY	PRE AMP SLIM COMBI C-CORE A NO	
	324		LG-4930R-0472A	HOLDER	VCR ONE BOARD SLIM MOLD HIPS 6(x2)	
	330		LG-3140R-V010A	CHASSIS	ONE BOARD PRESS SECC 0.8T	
	452		LG-1SZZR-0098A	SCREW/DRAWING	+ 2 D3.0 L10.0 MSWR3/FZMCY-1 3(x4)	
	457		LG-1SZZR-0098E	SCREW/DRAWING	+ 2 D3.0 L12.0 MSWR3/FZMCW-1 3(x4)	
	463		LG-1SZZR-0098G	SCREW/DRAWING	+ 2 D3.0 L8.0 MSWR3/FZMCW-1 3C(x8)	
	465		LG-1SZZR-0097K	SCREW/DRAWING	+ 2 D3.0 L10.0 MSWR3/FZB 3 CR(x2)	
	469		LG-1SZZR-0098J	SCREW/DRAWING	+ 2 D3.0 L6.5 MSWR3/FZMCY-1 3(x4)	
	470		LG-1SZZR-0098K	SCREW/DRAWING	+ 2 D3.0 21MM MSWR3/FZMCY-1 3C(x2)	
	471		LG-1SZZR-0098L	SCREW/DRAWING	+ 2 D3.0 L16.0 MSWR3/FN SILVER	
	A43		LG-3721R-F432C	PANEL ASSEMBLY/FRONT	VCR VJ9033SZ.NA3FJJ COMBI	A
	A43		LG-3721R-F432B	PANEL ASSEMBLY/FRONT	VCR VJ9033SZ.NA3FJJ COMBI	B
	A43		LG-3721R-F432A	PANEL ASSEMBLY/FRONT	VCR VJ9033SZ.NA3FJJ COMBI	C,D,E,F
	A44		LG-3141R-V027L	CHASSIS ASSEMBLY	2005 COMBI DVD+VCR 4HD HI-FI P	

VHS mechanism assembly and parts list

Block No. M2MM



BACK SIDE


051
052
517
061
064
056
A11
A12
023
077
518
055
058
052A
080
078
060
076
410

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

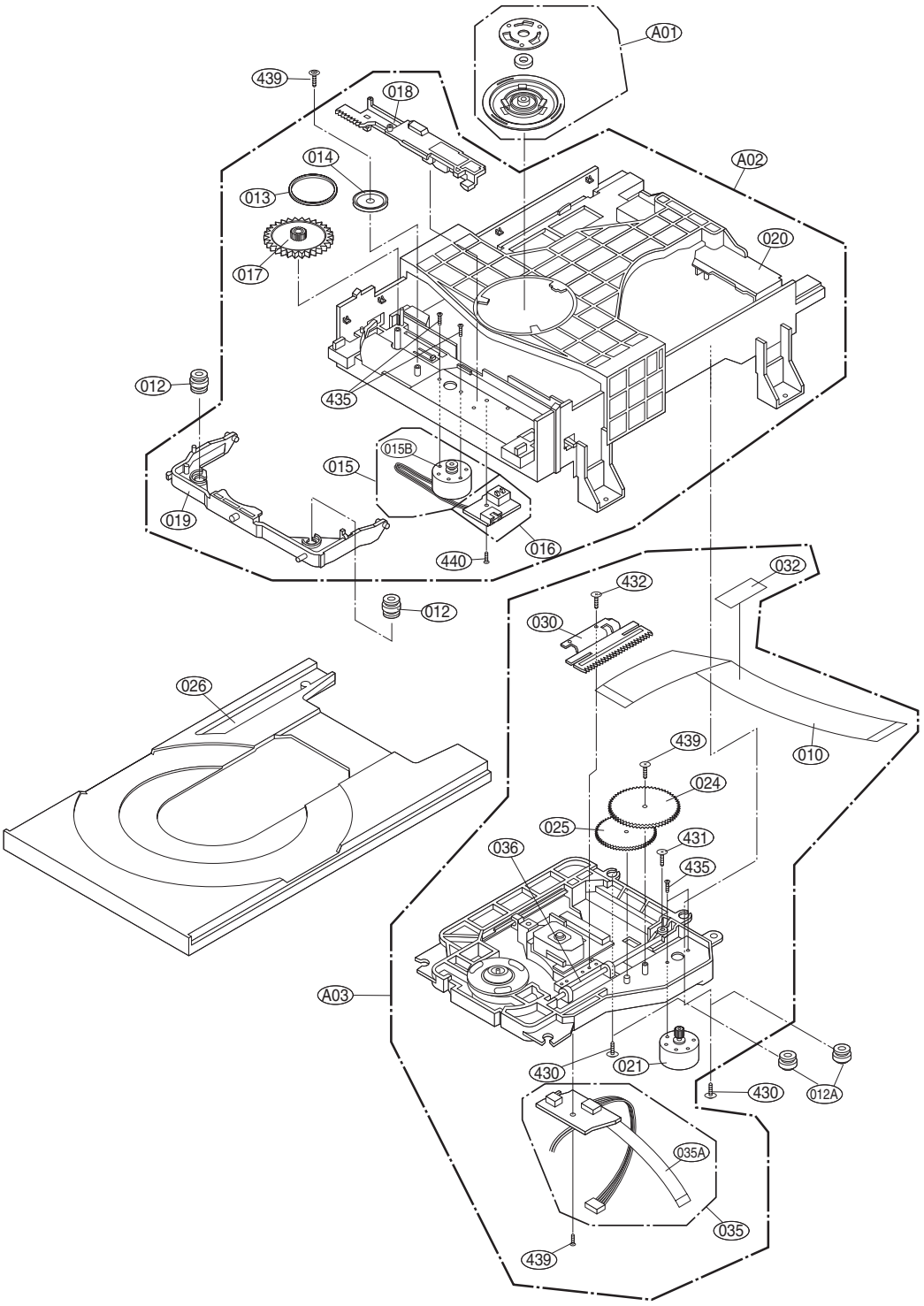
VHS mechanism

Block No. [M][2][M][M]

⚠	Symbol No.		Part No.	Part Name	Description	Local
	003		LG-4930R-0449A	HOLDER	DECK/MECHA FPCB(6CH) - D37C MO	
	004		LG-5006R-0045A	CAP	DECK/MECHA FPCB - D37C MOLD	
	008		LG-6850R-HG18Y	CABLE/FLAT	P=1.25 FFC UL2896(0.05X0.8) 7	
	009		LG-4260R-0056A	ARM	DECK/MECHA T/UP OTHER - D37	
	011		LG-4261R-0040A	ARM ASSEMBLY	DECK/MECHA TENSION - D37	
	012		LG-3041R-M037A	BASE ASSEMBLY	P2 -D37	
	013		LG-3041R-M038A	BASE ASSEMBLY	P3 - D37	
	014		LG-3041R-M039A	BASE ASSEMBLY	P4 - D37	
	015		LG-5870R-0007A	OPENER	DECK/MECHA LID OTHER - D37	
	016		LG-3041R-M036D	BASE ASSEMBLY	A/C HEAD (ALPS) - D37 (DUMMY H	
	017		LG-4408R-0005A	REEL	DECK/MECHA S OTHER - D37	
	021		LG-4421R-M002A	BRAKE ASSEMBLY	T - D37	
	022		LG-6520D00004B	HEAD(CIRC)	ST ST FE HEAD FOR D37 13.5	
	023		LG-3040R-M056A	BASE	LOADING OTHER - D37	
	024		LG-4261R-0042A	ARM ASSEMBLY	DECK/MECHA IDLER(N) - D37	
	027		LG-4470R-0133A	GEAR	DECK/MECHA WHEEL OTHER - D37	
	028		LG-4408R-0006A	REEL	DECK/MECHA T OTHER - D37	
	029		LG-4261R-0037A	ARM ASSEMBLY	DECK/MECHA PINCH - D37 (CHON P	
	031		LG-4970R-0175A	SPRING	COIL TENSION - D37(x2)	
	051		LG-4400R-0005A	BELT	CAPSTAN	
	052		LG-4680R-A015A	MOTOR(MECH)	CAPSTAN F2QVB66 SANKYO FOR D37	
	052A		LG-4980R-0029A	SUPPORTER	DECK/MECHA CAPSTAN OTHER - D37	
	054		LG-4470R-0136A	GEAR	DECK/MECHA RACK F/L OTHER - D3	
	054A		LG-4970R-0171A	SPRING	COIL RACK F/L - D37	
	055		LG-4470R-0140A	GEAR	DECK/MECHA DRIVE OTHER - D37	
	056		LG-4470R-0139A	GEAR	DECK/MECHA CAM OTHER - D37	
	058		LG-4421R-M001A	BRAKE ASSEMBLY	CAPSTAN -D37	
	060		LG-4510R-0065A	LEVER	DECK/MECHA F/R OTHER - D37	
	061		LG-4265R-0007A	CLUTCH ASSEMBLY	DECK/MECHA D37(N)	
	064		LG-4470R-0141A	GEAR	DECK/MECHA SECTOR OTHER - D37	
	076		LG-4510R-0063A	LEVER	DECK/MECHA SPRING OTHER - D37	
	077		LG-3300R-M203A	PLATE	SLIDER OTHER - D37	
	078		LG-4510R-0062A	LEVER	DECK/MECHA TENSION OTHER - D37	
	079		LG-3040R-M057A	BASE	TENSION OTHER - D37	
	080		LG-4510R-0064A	LEVER	DECK/MECHA BRAKE OTHER - D37	
	100		LG-3301R-M193A	PLATE ASSEMBLY	TOP - D37	
	102		LG-4970R-0173A	SPRING	COIL STOPPER - D37	
	109		LG-5870R-0008A	OPENER	DECK/MECHA DOOR OTHER - D37	
	115		LG-4510R-0070A	LEVER	DECK/MECHA SWITCH(C) OTHER - D	
	116		LG-4970R-0163A	SPRING	COIL D35S SWITCH	
	405		LG-1MPC0301270	SCREW MACHINE/PAN HEAD	+ D3.0 L3.5 SWRCH18A/FZW	
	406		LG-1MEC0302018	SCREW MACHINE/PAN HEAD SPR W	+ D3.0 L6.0 MSWR3/FZY(x3)	
	409		LG-1SZZR-0032B	SCREW/DRAWING	+ 1 D2.6 L5.0 SWRCH18A/FZY TAP	
	410		LG-1APF0262218	SCREW TAP TITE(B)/PAN HEAD	+ D2.6 L6.8 MSWR3/FZY(x3)	
	517		LG-1WZZR-0004D	WASHER/DRAWING	STOPPER	
	518		LG-1WZZR-0004A	WASHER/DRAWING	STOPPER	
	A01		LG-6723R-0603F	DRUM(CIRC) ASSEMBLY	DECK/MECHA (9P6S) D37-6CH PAL	
	A11		LG-4471R-0017A	GEAR ASSEMBLY	DECK/MECHA P3 - D37	
	A12		LG-4471R-0015A	GEAR ASSEMBLY	DECK/MECHA P2 - D37	
	A21		LG-4931R-0084A	HOLDER ASSEMBLY	DECK/MECHA CST - D37	
	A22		LG-4471R-0016A	GEAR ASSEMBLY	DECK/MECHA RACK F/L - D37	
	A23		LG-4261R-0038A	ARM ASSEMBLY	DECK/MECHA F/L - D37	
	A24		LG-4511R-0005A	LEVER ASSEMBLY	SWITCH(C) - D37	

DVD mechanism assembly and parts list

Block No. M3MM



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

DVD mechanism

Block No. [M][3][M][M]

⚠	Symbol No.		Part No.	Part Name	Description	Local
	010		LG-6850R-JW23Z	CABLE/FLAT	P=1.0 FFC UL2896(0.035X0.7) 23	
	012		LG-5040R-0083A	RUBBER	DVD DP-6/ DP-8 FRONT RIGHT 20(x2)	
	012A		LG-5040R-0110A	RUBBER	DVD REAR DP8 RIGHT 20 OTHER BL(x2)	
	013		LG-4400R-0006B	BELT	DECK/MECHA DP2-5/ DP7C/DP7A OT	
	014		LG-4470R-0154A	GEAR	DECK/MECHA DP8 PULLEY MOLD	
	015		LG-4681R-A015A	MOTOR ASSEMBLY	DECK/MECHA LOADING DP-9 SH	
	015B		LG-4560R-0008A	PULLEY	MOTOR	
	016		LG-6871R-9294A	PWB(PCB) ASSEMBLY/TOTAL	DP-9C LOADING	
	017		LG-4470R-0176A	GEAR	DVD DP-9 LOADING MOLD	
	018		LG-4974R-0067A	GUIDE	DVD DP-9C UP/DOWN MOLD	
	019		LG-3210R-M008A	FRAME	DP-9C UP/DOWN MOLD	
	020		LG-3040R-M064A	BASE	MAIN DP-9C MOLD	
	021		LG-4681R-B009B	MOTOR ASSEMBLY	DECK/MECHA DP9 FEEDING	
	024		LG-4470R-0179A	GEAR	DVD DP-9 PINION MOLD	
	025		LG-4470R-0178A	GEAR	DVD DP-9 MIDDLE MOLD	
	026		LG-3390R-0030A	TRAY	DVD DP-9C DISK MOLD	
	030		LG-4470R-0180A	GEAR	DVD DP-9 RACK MOLD	
	032		LG-6200J000090	FILTER(CIRC)/EMC	ZSHT1228-0730T-K TDK ST	
	035		LG-6871R-9295A	PWB(PCB) ASSEMBLY/TOTAL	DP-9C FEEDING	
	035A		LG-6850R-GK09Z	CABLE/FLAT	P=1.0 FFC UL2896(0.05X0.65) 11	
	036		LG-4370R-0136A	SHAFT	DVD PU/ DR-02 SUS-420J2 OTHER	
	430		LG-1SZZR-0064B	SCREW/DRAWING	+ 1 D1.7 L7.0 SWCH18A/BZN DP8(x2)	
	431		LG-1SZZR-0062A	SCREW/DRAWING	+ 1 D1.7 L4.5 SWCH18A/NI DP8 P	
	432		LG-1SZZR-0072A	SCREW/DRAWING	+ 1 D1.7 L4.5 SWRCH18A/FZY DP8	
	435		LG-1SZZR-0011A	SCREW/DRAWING	MACHINE(x4)	
	439		LG-1SZZR-0075A	SCREW/DRAWING	+ 1 D1.7 L10.0 SWRCH18A/FZW DP(x3)	
	440		LG-1SZZH-1007B	SCREW/DRAWING	+ D2.0 6MM SWRCH16A/ZNBK 4MM 1	
	A01		LG-4861R-0016B	CLAMP ASSEMBLY	DISC DP7 - SH	
	A02		LG-3041R-D024A	BASE ASSEMBLY	MAIN DP-9C	
	A03		LG-3041R-M068A	BASE ASSEMBLY	SLED DP-9C (DI)	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Electrical parts list

Power board

Block No. [0][1]

⚠	Symbol No.		Part No.	Part Name	Description	Local
	A47		LG-6871R-4925C	PWB(PCB) ASSEMBLY/TOTAL	2005 COMBI ZORAN CIS SMPS DI	C
	A47		LG-6871R-4925A	PWB(PCB) ASSEMBLY/TOTAL	2005 COMBI ZORAN PAL SMPS DI C	A,B,D, E,F
⚠	PW101		LG-561-292B	CONNECTOR(CIRC) /DRAWING	GP390 LGC 3P 3.96 STRAIGHT SN	
	IC101		LG-0IPMGIH005A	IC/POWER MANAGEMENT	ICE3B0565J INFINEON 8PIN/DIP S	
⚠	IC102		PZ0ILI817000B	SENSOR	LTV-817B/PHOTO COUPLER(LITEON)	
⚠	IC102	or	LG-6500RDB010A	SENSOR	PC123YN2J00F SHARP PHOTOCOUPLE	
	IC103		LG-0IKE431000A	IC/KEC	KIA431 3 PIN TP - -	
	IC103	or	LG-0ISS431000A	IC/SAMSUNG ELECTRONICS	KA431AZ (LM431AZ)	
	IC131		LG-0IPMGKE006B	IC/POWER MANAGEMENT	KIA78R33PI CU KEC 4P TO-220IS	
	IC131	or	LG-0IPMGGM002A	IC/POWER MANAGEMENT	G9133 GMT 4PIN/TO 220F-4L ST 1	
	Q161		LG-0TR126809BA	TRANSISTOR/ BIPOLARS	KTA1268-BL TP KEC	
	Q162		LG-0TR319809AC	TRANSISTOR	KTC3198-TP-BL (KTC1815)KEC	
	Q162	or	LG-0TR534309BA	TRANSISTOR/ BIPOLARS	2SC5343-L TP AUK TO92 -	
	Q163		LG-0TR928009AD	TRANSISTOR	KSA928A-Y/TO-92L TP SAMSUNG TO	
	Q163	or	LG-0TR127309AA	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
	Q164		LG-0TR534309BA	TRANSISTOR/ BIPOLARS	2SC5343-L TP AUK TO92 -	
	Q164	or	LG-0TR534409AA	TRANSISTOR	2SC5344Y TP	
	Q165		LG-0TR928009AD	TRANSISTOR	KSA928A-Y/TO-92L TP SAMSUNG TO	
	Q165	or	LG-0TR127309AA	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
	Q166		LG-0TR232809AB	TRANSISTOR	KSC2328A-Y TP SAMSUNG TO-92L	
	Q166	or	LG-0TR320509AB	TRANSISTOR	KTC3205-TP-Y (KTC2236A)KEC	
	BD101		S1WB/A/60-4101	BRIDGE DIODE	S1WBA60 BK SHINDENGEN - 600V -	
	BD101	or	LG-0DRRE00060A	DIODE/RECTIFIERS	DB105-C-S-V50 RECTRON BK NON 6	
	D101		ERA22-10	DIODE/RECTIFIERS	ERA22-10 KFLB/TP /R T/P/FUJI	
	D102		LG-0DR104009BA	DIODE/RECTIFIERS	RL104F TP RECTRON - 400V 1A 30	
	D102	or	LG-0DRGF00239A	DIODE/RECTIFIERS	FR104E GULF TP NON 400V 1A 30A	
	D121		LG-0DR104009BA	DIODE/RECTIFIERS	RL104F TP RECTRON - 400V 1A 30	
	D121	or	LG-0DRGF00239A	DIODE/RECTIFIERS	FR104E GULF TP NON 400V 1A 30A	
	D123		LG-0DR810040BA	DIODE/RECTIFIERS	ERC81-004L22 BK FUJI DO201AD 4	
	D123	or	LG-0DR158220AA	DIODE/RECTIFIERS	1N5822 BK RECTRON DO201AD 40V	
	D123	or	LG-0DRGF00210A	DIODE/RECTIFIERS	1N5822 GULF BK DO201AD 40V 3A	
	D124		LG-0DSGF00040A	DIODE/SWITCHING	UF5402-M11 GULF BK DO201AD 200	
	D124	or	LG-0DSDI00110A	DIODE/SWITCHING	UF3003 DIODES BK DO201AD 200V	
	D125		LG-0DRSD00210A	DIODE/RECTIFIERS	D3S6M SHINDENGEN BK AX14 60V 1	
	D127		1SS133-T2	SI DIODE	1SS133 TP ROHM KOREA - - - - -	
	ZD102		LG-0DZ202609AA	DIODE/ZENER	UZ-20BSB 26MM TP PYUNG CHANG D	
	ZD151		LG-0DZ132609AB	DIODE/ZENERS	GDZJ13A 26MM TP GRANDE DO34 0	
	ZD151	or	LG-0DZ132609BB	DIODE/ZENER	UZ-13BSA 26MM TP PYUNG CHANG	
	ZD152		LG-0DZ102609BB	DIODE/ZENERS	UZ-10BSB 26MM TP PYUNG CHANG D	
	ZD152	or	LG-0DZ100009HA	DIODE/ZENERS	UZ-10BM TP PYUNG CHANG - 0.5W	
⚠	C101		LG-624-088L	CAPACITOR/ DRAWING	435D SUNIL ELECTRONICS 0.1UF/2	
	C102		LG-624-088L	CAPACITOR/ DRAWING	435D SUNIL ELECTRONICS 0.1UF/2	
	C103		LG-0CE686CV610	CAPACITOR/FIXED ELECTROLYTIC	68UF SHL,SD 450V M FL BULK	C
	C103		LG-0CE686CU611	CAPACITOR/FIXED ELECTROLYTIC	68UF SHL/SD 400V 20% FL BK7.5	A,B,D, E,F
	C104		LG-0CN1040K948	CAPACITOR/FIXED TUBULAR(HIGH D	0.1UF D 50V 80%/-20% F(Y5V) TA	
	C105		LG-0CQ1031Y519	CAPACITOR/FIXED FILM	0.01UF D 630V 10% PE NI TP5	
	C106		LG-624-087G	CAPACITOR	HIGH-VOL 68PF/1KV SMPS SAMHWA	
	C107		LG-0CN1030K518	CAPACITOR/TUBULAR (HIGH DIELEC)	0.01UF 50V K B TA26	
	C108		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
⚠	C109		LG-0CE3366H638	CAPACITOR/FIXED ELECTROLYTIC	33UF SMS/SG 25V 20% FM5 TP 5	
	C111		LG-0CG1020U630	CAPACITOR/SEMI CERAMIC	1000PF 400V M E(Z5U) R	
	C121		LG-624-087D	CAPACITOR/FIXED CERAMIC(HIGH D	HI-VOL 470P/1KVDC SMPS SAMHWA	
	C124		LG-0CE477BH630	CAPACITOR/ AL.ELECTROLYTIC	470UF KME TYPE 25V M FM5 BULK	
	C126		LG-624-085D	CAPACITOR	CE 47UF/50V KME (SMPS)	
	C127		LG-0CE108BF630	CAPACITOR/FIXED ELECTROLYTIC	1000UF KME 16V M FM5 BULK	
	C128		LG-0CE228BF630	CAPACITOR/FIXED ELECTROLYTIC	2200UF KME TYPE 16V 20% FM5 BU	
	C134		LG-0CE227CH618	CAPACITOR/FIXED ELECTROLYTIC	220UF SHL/SD 25V 20% FL TP 5	
	C137		LG-0CE3376D638	CAPACITOR/ ELECTROLYTIC	330UF SMS 10V M FM5 TP5	
	C138		LG-624-082H	CAPACITOR	CE 1000UF/10V SHL(10*12.5)T/P	
	C143		LG-0CQ1042K409	CAPACITOR/FIXED FILM	0.1UF S 50V 5% PE TP5	
	C158		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C159		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C160		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C161		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C162		LG-0CE4776D638	CAPACITOR/FIXED ELECTROLYTIC	470UF SMS/SG 10V 20% FM5 TP 5	
	C164		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C166		LG-0CN223AK948	CAPACITOR/ TUBULAR(HIGH DIELEC)	0.022UF 50V Z F TA26 S	
	R100		QRE121J-155Y	C RESISTOR	1.5M OHM 1/2 W 5.00% MF10	
	R104		LG-0RS5602K619	RESISTOR/FIXED METAL OXIDE FIL	56K OHM 2 W 5.00% TR	
	R105		LG-0RD0102F608	RESISTOR/FIXED CARBON FILM	10 OHM 1/6 W 5% TA26	
	R109		LG-0RS0750K619	RESISTOR/FIXED METAL OXIDE FIL	0.75 OHM 2 W 5.00% TR	
	R136		QRD161J-104Y	C RESISTOR	100K OHM 1/6 W 5% TA26	
	R141		QRD161J-221	C RESISTOR	220 OHM 1/6 W 5% TA26	
	R142		QRD161J-222Y	C RESISTOR	2.2K OHM 1/6 W 5% TA26	
	R143		QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	
	R144		LG-0RN3301F408	RESISTOR/FIXED METAL FILM	3.3K OHM 1/6 W 1% TA26	
	R145		LG-0RN2701F408	RESISTOR/FIXED METAL FILM	2.7K OHM 1/6 W 1% TA26	
	R146		QRD161J-271Y	C RESISTOR	270 OHM 1/6 W 5% TA26	
	R154		QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R155		QRD161J-183Y	C RESISTOR	18K OHM 1/6 W 5% TA26	
	R156		QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	
	R157		QRE141J-331Y	C RESISTOR	330 OHM 1/6 W 5% TA26	
	R163		QRD161J-472Y	C RESISTOR	4.7K OHM 1/6 W 5% TA26	
	R164		QRD161J-472Y	C RESISTOR	4.7K OHM 1/6 W 5% TA26	
	R165		QRD161J-472Y	C RESISTOR	4.7K OHM 1/6 W 5% TA26	
	R166		QRD161J-562Y	C RESISTOR	5.6K OHM 1/6 W 5% TA26	
	R168		QRD161J-562Y	C RESISTOR	5.6K OHM 1/6 W 5% TA26	
	R172		QRE141J-102Y	C RESISTOR	1K OHM 1/6 W 5% TA26	
	R174		QRE141J-331Y	C RESISTOR	330 OHM 1/6 W 5% TA26	
	L102		LG-616-145G	FILTER(CIRC)/ DRAWING	SHT LFSQ2215V4-04220	
	L124		LG-633-088G	COIL/CHOKE	22MH TOKO 5MM TP	
	L127		LG-633-088G	COIL/CHOKE	22MH TOKO 5MM TP	
	L128		LG-6140RCC003H	COIL/RF	CHOKE COIL 22 UH 8X8 5 PIE SAM	
⚠	T101		LG-6170RNGW12P	TRANSFORMER/ SMPS[COIL]	EER2828 15 PIN SOOJUNG/SAMWHA	
	BC101		LG-636-004C	FILTER(CIRC)/EMC	BEAD CORE BFS3550R2FD8/R T/P	
⚠	FR101		LG-0RF0221K634	RESISTOR/ VARIABLE[CARBON FILM]	2.2 OHM 2 W 5% MF15	
	PPM01		LG-6630R-BF03M	CONNECTOR (CIRC)/ BOARD TO BOAR	JE121-13 JAE EUN 13P 2.54MM	
⚠	V101		LG-656-004C	VARISTOR/ DRAWING	SVC681D-10A SAMHWA 4.O CUT	

Key board

Block No. [0][2]

⚠	Symbol No.		Part No.	Part Name	Description	Local
	A50		LG-6871R-7960D	PWB(PCB) ASSEMBLY/TOTAL	05 COMBI PAL MAIN KEY TOOL JVC	
	A50		LG-6871R-7960D	PWB(PCB) ASSEMBLY/TOTAL	05 COMBI PAL MAIN KEY TOOL JVC	
	R5J1		QRE141J-152Y	C RESISTOR	1.5K OHM 1/6 W 5% TA26	
	R5J2		QRD161J-122	C RESISTOR	1.2K OHM 1/6 W 5% TA26	
	R5J3		QRE141J-152Y	C RESISTOR	1.5K OHM 1/6 W 5% TA26	
	R5J4		QRD161J-222Y	C RESISTOR	2.2K OHM 1/6 W 5% TA26	
	R5J5		QRD161J-332Y	C RESISTOR	3.3K OHM 1/6 W 5% TA26	
	R5J6		QRE141J-123Y	C RESISTOR	12K OHM 1/6 W 5% TA26	
	CN501		LG-6631R-E007T	CONNECTOR ASSEMBLY	8283-02/9073-02ST 2PIN 60M/M P	
	SW507		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW507	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
	SW507	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW508		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW508	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW508	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
	SW509		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW509	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
	SW509	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW510		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW510	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
	SW510	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW511		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW511	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW511	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
	SW512		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW512	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW512	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	
	SW513		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW513	or	LG-6600RRT001G	SWITCH/TACT	EVQ 213 09K MATSUSHITA 15V DC	
	SW513	or	LG-6600RRT001R	SWITCH/TACT	SKHVBG3910-AA FORWARD 12V DC 5	

VCR main board

Block No. [0][3]

⚠	Symbol No.		Part No.	Part Name	Description	Local
	A46		LG-3501R-9320T	BOARD ASSEMBLY	VCR MAIN VJ9033CSZ NA7BJJ ZORA	A
	A46		LG-3501R-9320Y	BOARD ASSEMBLY	VCR MAIN VJ9033CP1Z NA4UJJ ZOR	B
	A46		LG-3501R-9320X	BOARD ASSEMBLY	VCR MAIN VJ9033CP4Z NA3RJJ ZOR	C
	A46		LG-3501R-9320U	BOARD ASSEMBLY	VCR MAIN VJ9033CP1Z NA3GJJ ZOR	D
	A46		LG-3501R-9320W	BOARD ASSEMBLY	VCR MAIN VJ9033CP2Z NA8SJJ ZOR	E
	A46		LG-3501R-9320V	BOARD ASSEMBLY	VCR MAIN VJ9033CP2Z NA8PJJ ZOR	F
	IC201		LG-0ILNRRH039A	IC/LINEAR	BA5888FP ROHM 28PIN/HSOP R/TP	
	IC202		LG-0ILNRUC003A	IC/LINEAR	LM358L UTC 8PIN/SOP R/TP OPAMP	
	IC301		LG-0ILNRSA005B	IC/LINEAR	LA71750EM SANYO 100PIN QFP TRA	
	IC3S1		LG-0ILNRSA007B	IC/LINEAR	LA70100M-TRM SANYO 30PIN SOP R	A
	IC401		LG-0IPRPTI064A	IC/PERIPHERALS	PCM1753DBQR TEXAS INSTRUMENT 1	
	IC402		LG-0ILNRUC001A	IC/LINEAR	MC4580 UTC 8PIN/SOP R/TP 2CH O	
	IC402	or	LG-0ILNRAU017A	IC/LINEAR	S4580 AUK KOREA 8PIN/SOP R/TP	
	IC501		LG-0IMCR02041A	IC/MICRO CONTROLLER	MN101D10FLC MATSUSHITA 100PIN	
	IC503		LG-0IAL241600B	IC/ATMEL	AT24C16 - - - -	
	IC503	or	LG-0ICS241600B	IC/CATALYST	CAT24WC16P 8P DIP ST 16K SERIA	
	IC504		LG-0IKE703100A	IC/KEC	KIA7031P 3P 3.1V RESET(TAPING)	
	IC504	or	LG-0ISS753100A	IC/SAMSUNG ELECTRONICS	KA7531Z TO-92 TP 3.1V RESET	
	IC505		LG-0IKE704200B	IC/KEC	KIA7042P 3P 4.2V RESET(TAPING)	
	IC5F1		LG-0ILNRPY001B	IC/LINEAR	PT6955 PTC 24PIN SOP R/TP LED	
	IC5F1	or	LG-0IPRPG5001B	IC/PERIPHERALS	LG5-6955 LED DRIVER G-FIVE 24P	
	IC601		LG-0ILNRZR002B	IC/LINEAR	ZR36868ELCG B1 ZORAN 208PIN/QF	
	IC602		LG-0IMMREB006C	IC/MEMORIES	M12L16161A-7T ESMT 50PIN/TSOP	
	IC605		LG-0ISS240210A	IC/SAMSUNG ELECTRONICS	S524A40X21-SCT0 SOP8 TP EEPROM	
	IC605	or	LG-0IMMRSE002A	IC/MEMORIES	S-24CC02A-J8T1G SEIKO 8PIN/SOP	
	IC751		LG-0IIT341700C	IC/ITT	MSP3417G-QG-B8-V3 44 QFP TRAY	
	IC801		LG-0IPH960500A	IC/PHILIPS	TDA9605H QFP44 BK HIFI AMP+HIF	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	IC802		MM1231XF-X	IC/PERIPHERALS	MM1231XF MITSUMI 16PIN SOP ST	
	IC803		LG-0IPMGUC006A	IC/POWER MANAGEMENT	LD1117A-1.8V UTC TO252 R/TP 1.	
	IC604A		LG-6957R-796AH	PROGRAM	DVD PROGRAM HV9C8000020 VJ9033	A
	IC604A		LG-6957R-796AG	PROGRAM	DVD PROGRAM HV968000050 VJ9033	C
	IC604A		LG-6957R-796AE	PROGRAM	DVD PROGRAM HV9E8000020 VJ9033	B,D
	IC604A		LG-6957R-796AF	PROGRAM	DVD PROGRAM HV9D8000020 VJ9033	E,F
	RC501		LG-6712R1938EA	SENSOR(REMOTE)	TSOP2238AY VISHAY 38KHZ LGEDI	
	RS501		LG-6500RAB008A	SENSOR	KIT-3001A REEL SENSOR KODENSHI	
	RS502		LG-6500RAB008A	SENSOR	KIT-3001A REEL SENSOR KODENSHI	
	Q201		2SA1037K/QR/-X	TRANSISTOR/ BIPOLARS	2SA1037K-Q CHIP TP ROHM - -	
	Q202		2SA1037K/QR/-X	TRANSISTOR/ BIPOLARS	2SA1037K-Q CHIP TP ROHM - -	
	Q203		LG-0TRKE80068A	TRANSISTOR/ BIPOLARS	KTA1531T-Y GRADE KEC R/TP TSM	
	Q204		LG-0TRKE80068A	TRANSISTOR/ BIPOLARS	KTA1531T-Y GRADE KEC R/TP TSM	
	Q205		LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
	Q206		LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
	Q207		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q208		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q302		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q303		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q304		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q305		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q306		LG-0TR534409AA	TRANSISTOR	2SC5344Y TP	
	Q309		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q311		LG-0TR534409AA	TRANSISTOR	2SC5344Y TP	
	Q403		LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
	Q404		LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
	Q405		2SA1037K/QR/-X	TRANSISTOR/ BIPOLARS	2SA1037K-Q CHIP TP ROHM - -	
	Q501		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q503		LG-0TR928009AD	TRANSISTOR	KSA928A-Y/TO-92L TP SAMSUNG TO	
	Q503	or	LG-0TR127709AB	TRANSISTOR/ BIPOLARS	AUK KOREA STB1277LY-AT TP TO-9	
	Q503	or	LG-0TR127309AA	TRANSISTOR	KTA1273-TP-Y (KTA966A)KEC	
	Q504		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q505		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q506		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q601		LG-0TR390409DA	TRANSISTOR	2N3904S NPN SOT-23 TP KEC	
	Q602		LG-0TR390409DA	TRANSISTOR	2N3904S NPN SOT-23 TP KEC	
	Q603		LG-0TR390409DA	TRANSISTOR	2N3904S NPN SOT-23 TP KEC	
	Q7S1		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	A
	Q7S2		LG-0TR103009AA	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	A
	Q801		LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
	Q802		LG-0TRKE80067A	TRANSISTOR/ BIPOLARS	KTC3531T KEC R/TP TSM 20V 1A	
	Q804		LG-0TR320509AB	TRANSISTOR	KTC3205-TP-Y (KTC2236A)KEC	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	Q806		LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
	Q807		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	B,C,D,E,F
	Q808		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	B,C,D,E,F
	Q902		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q903		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	Q905		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q906		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q907		LG-0TR103009AC	TRANSISTOR	KRA103S-T1(PC)22-22 CHIP KEC	
	Q908		LG-0TR103009AA	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
	Q909		LG-0TR103009AA	TRANSISTOR	CHIP KRC103S-T1(NC)22-22 KEC	
	Q910		LG-0TR150409AC	TRANSISTOR	KTA1504-GR-T1(ASG) CHIP KEC	
	Q914		LG-0TR387509AC	TRANSISTOR	CHIP KTC3875S-GR-T1(ALG) KEC	
	D301		1SS133-T2	SI DIODE	1SS133 TP ROHM KOREA - - - - -	
	D401		LG-0DD181009AA	DIODE/DRAWING	DIODE CHIP KDS181-T1(A3) KEC	
	D401	or	LG-0DSRM00118A	DIODE/SWITCHING	DAP202K T146 ROHM R/TP SMD 80V	
	D503		LG-0DR104009AB	DIODE/RECTIFIERS	RL104 R. TP GULF SEMICONDUCTOR	
	D504		LG-0DR104009AB	DIODE/RECTIFIERS	RL104 R. TP GULF SEMICONDUCTOR	
	LED501		LG-6301R3U011A	LED ASSEMBLY	F3C5-2GWB EVERLIGHT UNIVERSAL	
	ZD501		LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
	ZD502		LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
	ZD503		LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
	ZD504		LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
	ZD505		LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
	ZD506		LG-0DZ562609BB	DIODE/ZENER	UZ-5.6BSB 26MM TP PYUNG CHANG	
	ZD801		LG-0DZ622609AB	DIODE/ZENER	UZ-6.2BSA 26MM TP PYUNG CHANG	
	ZD802		LG-0DZKE00018A	DIODE/ZENERS	Z02W7.5V KEC R/TP SOT23 250MW	
	ZD803		LG-0DZKE00018A	DIODE/ZENERS	Z02W7.5V KEC R/TP SOT23 250MW	
	C201		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C202		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C204		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C205		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C206		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C207		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C208		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C209		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C210		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C211		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C212		LG-0CH1472K562	CAPACITOR/FIXED CERAMIC(TEMP.C	4700PF 50V 10% X7R(X) 1608 R/T	
	C213		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C214		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C215		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C216		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C219		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C220		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C221		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C302		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C303		LG-0CH1122K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1200PF 50V 10% X7R(X) 1608 R/T	
	C304		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C305		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C306		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C307		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C308		LG-0CQ2231N409	CAPACITOR/FIXED FILM	0.022UF D 100V 5% PE TP5	
	C309		LG-0CH4271K412	CAPACITOR/FIXED CERAMIC(HIGH D	270PF 50V 5% NP0 1608 R/TP	
	C310		NDC31HJ-221X	C CAPACITOR	220PF 50V 5% NP0 1608 R/TP	
	C311		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C312		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C314		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C315		QETC1HM-225Z	E CAPACITOR	2.2UF SRA/SS 50V 20% FM5 TP 5	
	C316		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C317		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C318		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C319		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C320		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C321		LG-0CH4680K412	CAPACITOR/FIXED CERAMIC(HIGH D	68PF 50V 5% NP0 1608 R/TP	
	C322		LG-0CE1063F638	CAPACITOR/ AL.ELECTROLYTIC	10M SRE/SE 16V M FM5 TP(5)	
	C323		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C324		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C325		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C326		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C327		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C328		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C329		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C330		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C331		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C333		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C334		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C335		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C336		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C337		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C338		LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
	C339		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C340		LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
	C341		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C342		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C343		LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
	C345		LG-0CH1473K562	CAPACITOR/FIXED CERAMIC(TEMP.C	47000PF 50V 10% X7R(X) 1608 R/	
	C346		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C347		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C348		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C349		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C350		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C351		NDC31HJ-221X	C CAPACITOR	220PF 50V 5% NP0 1608 R/TP	
	C353		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C355		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C356		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C357		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C358		LG-0CH4680K412	CAPACITOR/FIXED CERAMIC(HIGH D	68PF 50V 5% NP0 1608 R/TP	
	C359		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C360		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C361		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
	C362		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C363		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C366		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C367		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C368		LG-0CH1822K562	CAPACITOR/FIXED CERAMIC(TEMP.C	8200PF 50V 10% X7R(X) 1608 R/T	
	C370		LG-0CH4820K412	CAPACITOR/FIXED CERAMIC(HIGH D	82PF 50V 5% NP0 1608 R/TP	
	C371		LG-0CH4820K412	CAPACITOR/FIXED CERAMIC(HIGH D	82PF 50V 5% NP0 1608 R/TP	
	C372		LG-0CH4820K412	CAPACITOR/FIXED CERAMIC(HIGH D	82PF 50V 5% NP0 1608 R/TP	
	C374		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C375		LG-0CH1104K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 10% B(5YP) 1608 R/TP	
	C376		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	
	C388		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C3S1		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C3S2		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C3S3		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	A
	C3S4		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	A
	C3S5		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	A
	C3S6		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C3S7		QETL1HM-474	E CAPACITOR	0.47M SRA 50V M FM5 TP(5)	A
	C3S8		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C3S9		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C3T1		QETL1HM-474	E CAPACITOR	0.47M SRA 50V M FM5 TP(5)	A
	C3T2		LG-0CQ2222K409	CAPACITOR/FIXED FILM	2200PF S 50V 5% PE TP5	A
	C3T3		LG-0CQ2222K409	CAPACITOR/FIXED FILM	2200PF S 50V 5% PE TP5	A
	C3T4		QETC1HM-225Z	E CAPACITOR	2.2UF SRA/SS 50V 20% FM5 TP 5	A

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C3T5		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C3T6		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	A
	C3T7		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	A
	C401		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C402		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C403		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C405		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C406		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C407		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C408		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C409		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C410		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C411		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C412		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C413		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C414		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C415		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C418		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C501		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C502		LG-0CE4764C638	CAPACITOR/ ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
	C503		LG-0CH4470K412	CAPA/CHIP CERAMIC M/L T.C F/S	47P 50V J COG 1.6X0.8 R/TP	
	C504		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C505		LG-0CE4764C638	CAPACITOR/ ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
	C506		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
	C507		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C508		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C509		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C510		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C511		QETA1CM-336	E CAPACITOR	33M SRA 16V M FM5 TP(5)	
	C512		LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
	C513		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C514		NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	
	C515		NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	
	C516		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
	C517		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C518		LG-0CH1222K512	CAPACITOR/FIXED CERAMIC(TEMP.C	2200PF 50V 10% B(5YP) 1608 R/T	
	C520		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C522		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C523		QET61CM-226	E CAPACITOR	22UF SRA/SS 16V 20% FM5 TP 5	
	C524		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C525		LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
	C526		LG-0CE4764J638	CAPACITOR/ AL.ELECTROLYTIC	47UF SRA/SS 35V M FM5 TP 5	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C534		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C535		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C543		LG-0CH1222K512	CAPACITOR/FIXED CERAMIC(TEMP.C	2200PF 50V 10% B(5YP) 1608 R/T	
	C544		LG-0CH1473H942	CAPA/CHIP CERAMIC M/L H.D F/S	0.0470UF 25V Z Y5V(F) 1608 R/T	
	C545		LG-0CH1333K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.033UF 50V 10% X7R(X) 1608 R/	
	C546		LG-0CE4764J638	CAPACITOR/ AL.ELECTROLYTIC	47UF SRA/SS 35V M FM5 TP 5	
	C547		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C551		LG-0CH1333K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.033UF 50V 10% X7R(X) 1608 R/	
	C552		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C553		NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	
	C554		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
	C556		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C558		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C567		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C568		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C570		LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
	C571		LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
	C581		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C583		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
	C584		LG-0CH1223K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.022UF 50V 80%/-20% Y5V(F) 16	
	C5B2		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C5G2		LG-0CE1086C638	CAPACITOR/FIXED ELECTROLYTIC	1000000000 PF SMS/ SG 6.3V M FM	
	C5G3		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C5K8		LG-0CH4470K412	CAPA/CHIP CERAMIC M/L T.C F/S	47P 50V J COG 1.6X0.8 R/TP	
	C5L1		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C5L2		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C5L3		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C5L6		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C5R1		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C5R2		LG-0CH4681K412	CAPACITOR/FIXED CERAMIC(HIGH D	680PF 50V 5% NP0 1608 R/TP	
	C5S1		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C601		LG-0CH1122K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1200PF 50V 10% X7R(X) 1608 R/T	
	C602		LG-0CH1273F562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.027UF 1608 16V 10% X7R R/TP	
	C603		LG-0CH1273F562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.027UF 1608 16V 10% X7R R/TP	
	C604		NDC31HJ-221X	C CAPACITOR	220PF 50V 5% NP0 1608 R/TP	
	C605		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C606		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C607		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C608		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C609		LG-0CH1102K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% X7R(X) 1608 R/T	
	C610		LG-0CH1102K562	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% X7R(X) 1608 R/T	
	C611		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C612		LG-0CE2274C638	CAPACITOR/ELECTROLYTIC	220M SRA 6.3V M FM5 TP(5)	
	C613		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C614		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C615		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C616		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C618		QET61CM-107Z	E CAPACITOR	100U SRA 16V M FM5 TP(5)	
	C621		LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
	C622		LG-0CH4150K412	CAPA/CHIP CERAMIC M/L T.C F/S	15P 50V J COG 1.6X0.8 R/TP	
	C623		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C624		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C625		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C626		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C627		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C628		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C629		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C630		LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
	C631		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C632		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C633		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C634		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C637		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C638		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C639		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C640		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C641		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C642		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C643		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C644		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C645		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C646		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C647		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C648		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C649		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C650		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C651		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C652		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C653		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C654		LG-0CH4010K012	CAPACITOR/FIXED CERAMIC(HIGH D	1PF 50V O.25 PF NP0 1608 R/TP	
	C660		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C662		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C664		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C673		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C674		LG-0CH4010K012	CAPACITOR/FIXED CERAMIC(HIGH D	1PF 50V O.25 PF NP0 1608 R/TP	
	C675		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C702		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C703		LG-0CH1103K512	APA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C703		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C704		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C706		LG-0CH4330K412	CAPACITOR/FIXED CERAMIC(HIGH D	33PF 50V 5% NP0 1608 R/TP	
	C707		LG-0CH4680K412	CAPACITOR/FIXED CERAMIC(HIGH D	68PF 50V 5% NP0 1608 R/TP	
	C709		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C710		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C712		LG-0CH1103K512	APA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C712		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C713		LG-0CH4560K412	CAPACITOR/FIXED CERAMIC(HIGH D	56PF 50V 5% NP0 1608 R/TP	
	C714		LG-0CH4560K412	CAPACITOR/FIXED CERAMIC(HIGH D	56PF 50V 5% NP0 1608 R/TP	
	C715		LG-0CH4050K012	CAPACITOR/FIXED CERAMIC(HIGH D	5PF 50V O.25 PF NP0 1608 R/TP	A
	C715		LG-0CH4050K172	CAPACITOR/FIXED CERAMIC(HIGH D	5PF 50V 0.5 PF N750 1608 R/TP	B,C,D,E,F
	C716		LG-0CH4100K412	CAPACITOR/FIXED CERAMIC(HIGH D	10PF 50V 5% NP0 1608 R/TP	
	C717		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C717		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C718		LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
	C719		LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
	C720		LG-0CH1392K512	CAPACITOR/FIXED CERAMIC(TEMP.C	3900PF 50V 10% B(5YP) 1608 R/T	
	C721		LG-0CH1392K512	CAPACITOR/FIXED CERAMIC(TEMP.C	3900PF 50V 10% B(5YP) 1608 R/T	
	C722		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C722		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C723		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C723		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C726		LG-0CH1103K512	CAPACITOR/FIXED CERAMIC(TEMP.C	0.0100UF 50V K B 1608 R/TP	A
	C726		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C727		LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
	C728		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C728		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C729		QETF1HM-335Z	E CAPACITOR	3.3UF SRA/SS 50V 20% FM5 TP 5	
	C732		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C751		LG-0CE4764C638	CAPACITOR/ELECTROLYTIC	47M SRA 6.3V M FM5 TP(5)	
	C752		LG-0CH1103K512	CAPA/CHIP CERAMIC M/L H.D F/S	0.0100UF 50V K B 1608 R/TP	A
	C752		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	B,C,D,E,F
	C7M3		NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	B,C,D,E,F
	C7M5		LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	B,C,D,E,F
	C7M6		NDC31HJ-270X	C CAPACITOR	27PF 50V 5% NP0 1608 R/TP	B,C,D,E,F
	C7S1		QETA1CM-336	E CAPACITOR	33M SRA 16V M FM5 TP(5)	A
	C7S2		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	A

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C802		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C803		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C804		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C805		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C806		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C807		QETL1HM-474	E CAPACITOR	0.47M SRA 50V M FM5 TP(5)	
	C810		LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
	C811		LG-0CH1105F942	CAPACITOR/FIXED CERAMIC(TEMP.C	1000000PF 16V 80%/-20% Y5V(F)	
	C812		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C813		LG-0CH1682K512	CAPACITOR/FIXED CERAMIC(TEMP.C	6800PF 50V 10% B(5YP) 1608 R/T	
	C814		LG-0CE4763F638	CAPACITOR/FIXED ELECTROLYTIC	47UF SRE/SE 16V 20% FM5 TP 5	
	C815		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C816		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C817		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C818		LG-0CE4763F638	CAPACITOR/FIXED ELECTROLYTIC	47UF SRE/SE 16V 20% FM5 TP 5	
	C819		LG-0CH1682K512	CAPACITOR/FIXED CERAMIC(TEMP.C	6800PF 50V 10% B(5YP) 1608 R/T	
	C820		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C821		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C822		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C823		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C824		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C825		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C826		LG-0CH1103K562	CAPACITOR/FIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C828		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C829		LG-0CE4754K638	CAPACITOR/FIXED ELECTROLYTIC	4.7UF SRA/SS 50V 20% FM5 TP 5	
	C830		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
	C831		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
	C832		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
	C833		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	B,C,D,E,F
	C850		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C851		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C852		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C853		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C856		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C870		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C871		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C884		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C885		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C887		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C888		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C889		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C890		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	C891		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C892		QET61CM-106Z	E CAPACITOR	10M SRA 16V M FM5 TP(5)	
	C902		LG-0CE4775F638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 16V 20% FM5 TP 5	
	C904		LG-0CE4775F638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 16V 20% FM5 TP 5	
	C911		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C912		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	C913		NDC31HJ-220X	C CAPACITOR	22P 50V J COG 1.6X0.8 R/TP	
	C916		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C917		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C919		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C921		LG-0CH1102K512	CAPACITOR/FIXED CERAMIC(TEMP.C	1000PF 50V 10% B(5YP) 1608 R/T	
	C938		LG-0CH1103K562	CAPACITORFIXED CERAMIC(TEMP.C	0.01UF 50V 10% X7R(X) 1608 R/T	
	C943		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C944		NDC31HJ-101X	C CAPACITOR	100PF 50V 5% NP0 1608 R/TP	
	C945		LG-0CQ3921N449	CAPACITOR/FIXED FILM	3900PF D 100V 5% PP TP5	
	C946		LG-0CQ3921N449	CAPACITOR/FIXED FILM	3900PF D 100V 5% PP TP5	
	C948		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	A
	C950		LG-0CH4151K412	CAPA/CHIP CERAMIC M/L T.C F/S	150P 50V J COG 1.6X0.8 R/TP	
	C971		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C974		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C975		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C976		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C978		QETC1HM-105Z	E CAPACITOR	1.0M SRA/SS50V M FM5 TP(5)	
	C979		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C980		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C981		LG-0CE1053K638	CAPACITOR/ AL.ELECTROLYTIC	1.0M SRE/SE50V M FM5 TP(5)	
	C983		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C984		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C985		LG-0CE4775C638	CAPACITOR/FIXED ELECTROLYTIC	470UF SR/SV 6.3V 20% FM5 TP 5	
	C987		QET61CM-476	E CAPACITOR	47UF SRA/SS 16V 20% FM5 TP 5	
	C989		LG-0CH1104K942	CAPACITOR/FIXED CERAMIC(TEMP.C	0.1UF 50V 80%/-20% Y5V(F) 1608	
	R204		LG-0RH0332C622	RESISTOR/METAL GLAZED(CHIP)	33 OHM 1 / 16 W 1608 5.00% D	
	R216		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R217		LG-0RH0331C622	RESISTOR/METAL GLAZED(CHIP)	3.3 OHM 1 / 16 W 1608 5.00% D	
	R218		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R219		LG-0RH0471C622	RESISTOR/METAL GLAZED(CHIP)	4.7 OHM 1 / 16 W 1608 5.00% D	
	R220		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R221		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R222		LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
	R223		LG-0RH3901C622	RESISTOR/METAL GLAZED(CHIP)	3.9K OHM 1 / 16 W 1608 5.00% D	
	R228		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R229		LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R232		NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
	R233		LG-0RH2002C622	RESISTOR/METAL GLAZED(CHIP)	20K OHM 1 / 16 W 1608 5.00% D	
	R238		LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
	R239		LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
	R243		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R244		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R245		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R246		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R247		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R248		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R251		NRSA63F-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 1.00% D	
	R252		NRSA63F-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 1.00% D	
	R254		LG-0RH4703C622	RESISTOR/METAL GLAZED(CHIP)	470K OHM 1 / 16 W 1608 5.00% D	
	R255		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R258		LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
	R259		LG-0RH0101C622	RESISTOR/METAL GLAZED(CHIP)	1 OHM 1 / 16 W 1608 5.00% D	
	R260		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R261		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R262		NRSA63J-563X	MG RESISTOR	56K OHM 1 / 16 W 1608 5.00% D	
	R263		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R264		LG-0RH4703C622	RESISTOR/METAL GLAZED(CHIP)	470K OHM 1 / 16 W 1608 5.00% D	
	R270		LG-0RH2203C622	RESISTOR/METAL GLAZED(CHIP)	220K OHM 1 / 16 W 1608 5.00% D	
	R301		NRSA63J-563X	MG RESISTOR	56K OHM 1 / 16 W 1608 5.00% D	
	R302		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R303		LG-0RH1802C622	RESISTOR/METAL GLAZED(CHIP)	18K OHM 1 / 16 W 1608 5.00% D	
	R304		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R305		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R306		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R307		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R308		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R309		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R310		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R311		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R312		LG-0RH6802C622	RESISTOR/METAL GLAZED(CHIP)	68K OHM 1 / 16 W 1608 5.00% D	
	R313		LG-0RH1800C622	RESISTOR/METAL GLAZED(CHIP)	180 OHM 1 / 16 W 1608 5.00% D	
	R314		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R315		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R316		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R317		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R318		LG-0RH3901C622	RESISTOR/METAL GLAZED(CHIP)	3.9K OHM 1 / 16 W 1608 5.00% D	
	R319		NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
	R320		LG-0RH1800C622	RESISTOR/METAL GLAZED(CHIP)	180 OHM 1 / 16 W 1608 5.00% D	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R321		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R322		NRSA63J-822X	MG RESISTOR	8.2K OHM 1 / 16 W 1608 5.00% D	
	R324		LG-0RH3303C622	RESISTOR/METAL GLAZED(CHIP)	330K OHM 1 / 16 W 1608 5.00% D	
	R325		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R326		NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
	R327		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R328		LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
	R329		NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
	R330		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R331		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R332		LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	
	R333		NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
	R334		LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
	R335		NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
	R336		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R337		NRSA63J-182X	MG RESISTOR	1.8K OHM 1 / 16 W 1608 5.00% D	
	R338		LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
	R339		LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
	R340		LG-0RH1802C622	RESISTOR/METAL GLAZED(CHIP)	18K OHM 1 / 16 W 1608 5.00% D	
	R342		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R343		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R345		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R347		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R348		LG-0RH1504C622	RESISTOR/METAL GLAZED(CHIP)	1.5M OHM 1 / 16 W 1608 5.00% D	
	R349		NRSA63J-182X	MG RESISTOR	1.8K OHM 1 / 16 W 1608 5.00% D	
	R350		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R351		LG-0RH8203C622	RESISTOR/METAL GLAZED(CHIP)	820K OHM 1 / 16 W 1608 5.00% D	
	R352		NRSA63J-331X	MG RESISTOR	330 OHM 1 / 16 W 1608 5.00% D	
	R353		NRSA63J-331X	MG RESISTOR	330 OHM 1 / 16 W 1608 5.00% D	
	R356		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R361		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R365		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R366		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R375		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R3S1		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	A
	R3S3		LG-0RH2204C622	RESISTOR/METAL GLAZED(CHIP)	2.2M OHM 1 / 16 W 1608 5.00% D	A
	R3S4		LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	A
	R403		NRSA63J-471X	MG RESISTOR	470 OHM 1 / 16 W 1608 5.00% D	
	R404		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R405		LG-0RH5101C622	RESISTOR/METAL GLAZED(CHIP)	5100 OHM 1 / 16 W 1608 5.00% D	
	R406		LG-0RH5101C622	RESISTOR/METAL GLAZED(CHIP)	5100 OHM 1 / 16 W 1608 5.00% D	
	R407		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R408		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R409		NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
	R410		NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
	R411		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R412		NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
	R413		NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
	R414		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R415		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R416		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R417		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R418		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R419		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R420		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R422		NRSA63J-100X	MG RESISTOR	10 OHM 1 / 16 W 1608 5.00% D	
	R423		LG-0RH0472C622	RESISTOR/METAL GLAZED(CHIP)	47 OHM 1 / 16 W 1608 5.00% D	
	R424		LG-0RH0472C622	RESISTOR/METAL GLAZED(CHIP)	47 OHM 1 / 16 W 1608 5.00% D	
	R425		LG-0RH0472C622	RESISTOR/METAL GLAZED(CHIP)	47 OHM 1 / 16 W 1608 5.00% D	
	R501		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R502		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R504		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R505		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R506		LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
	R507		NRSA63J-471X	MG RESISTOR	470 OHM 1 / 16 W 1608 5.00% D	
	R508		LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
	R509		LG-0RH2702C622	RESISTOR/METAL GLAZED(CHIP)	27K OHM 1 / 16 W 1608 5.00% D	
	R510		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R511		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R512		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R517		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R518		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R520		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R521		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R522		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R523		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R525		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R526		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R528		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R529		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R531		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R534		NRSA63J-105X	MG RESISTOR	1M OHM 1 / 16 W 1608 5.00% D	
	R537		LG-0RH1203C622	RESISTOR/METAL GLAZED(CHIP)	120K OHM 1 / 16 W 1608 5.00% D	
	R539		LG-0RH4703C622	RESISTOR/METAL GLAZED(CHIP)	470K OHM 1 / 16 W 1608 5.00% D	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R542		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R544		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R545		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R546		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R547		NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
	R548		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R550		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R553		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R555		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R556		NRSA63J-223X	MG RESISTOR	22K OHM 1 / 16 W 1608 5.00% D	
	R557		LG-0RH2702C622	RESISTOR/METAL GLAZED(CHIP)	27K OHM 1 / 16 W 1608 5.00% D	
	R558		NRSA63J-223X	MG RESISTOR	22K OHM 1 / 16 W 1608 5.00% D	
	R561		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R562		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R563		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R564		LG-0RH2702C622	RESISTOR/METAL GLAZED(CHIP)	27K OHM 1 / 16 W 1608 5.00% D	
	R566		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R567		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R568		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R569		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R570		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R575		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R576		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R577		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R578		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R579		NRSA63J-563X	MG RESISTOR	56K OHM 1 / 16 W 1608 5.00% D	
	R580		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R581		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R582		NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
	R583		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R584		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R585		NRSA63J-220X	MG RESISTOR	22 OHM 1 / 16 W 1608 5.00% D	
	R588		NRSA63J-682X	MG RESISTOR	6.8K OHM 1 / 16 W 1608 5.00% D	
	R592		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R593		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R599		LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
	R5B3		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5B4		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5C5		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5C6		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5C7		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5C9		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R5D1		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5D2		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5D3		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5D4		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5D5		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R5G1		LG-0RH4702C622	RESISTOR/METAL GLAZED(CHIP)	47K OHM 1 / 16 W 1608 5.00% D	
	R5G2		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R5G3		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R5G4		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R5K1		NRSA63J-681X	MG RESISTOR	680 OHM 1 / 16 W 1608 5.00% D	
	R5K2		LG-0RH8200C622	RESISTOR/METAL GLAZED(CHIP)	820 OHM 1 / 16 W 1608 5.00% D	
	R5K3		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R5K4		NRSA63J-152X	MG RESISTOR	1.5K OHM 1 / 16 W 1608 5.00% D	
	R5K5		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R5K9		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R5R7		NRSA63J-331X	MG RESISTOR	330 OHM 1 / 16 W 1608 5.00% D	
	R5R8		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R5S1		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R601		NRSA63J-153X	MG RESISTOR	15K OHM 1 / 16 W 1608 5.00% D	
	R602		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R603		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R604		LG-0RH3902C622	RESISTOR/METAL GLAZED(CHIP)	39K OHM 1 / 16 W 1608 5.00% D	
	R605		LG-0RH2002C422	RESISTOR/METAL GLAZED(CHIP)	20K OHM 1 / 16 W 1608 1.00% D	
	R606		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R609		LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
	R610		LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
	R611		LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
	R612		LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
	R613		LG-0RJ3920C477	RESISTOR/METAL GLAZED(CHIP)	392 OHM 1/16 W 1% 1608 R/TP	
	R614		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R615		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R616		LG-0RH2203C622	RESISTOR/METAL GLAZED(CHIP)	220K OHM 1 / 16 W 1608 5.00% D	
	R619		NRSA63J-100X	MG RESISTOR	10 OHM 1 / 16 W 1608 5.00% D	
	R620		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R621		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R622		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R628		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R632		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R633		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R634		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R636		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R638		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R639		LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
	R640		LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
	R641		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R642		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R643		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R646		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R648		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R661		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R670		LG-0LC11608D01	INDUCTOR/CHIP	HB-1M1608-121JT CERATECH R/TP	
	R671		LG-0LC11608D01	INDUCTOR/CHIP	HB-1M1608-121JT CERATECH R/TP	
	R682		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R683		LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
	R684		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R685		NRSA63J-122X	MG RESISTOR	1.2K OHM 1 / 16 W 1608 5.00% D	
	R686		LG-0RH2001C622	RESISTOR/METAL GLAZED(CHIP)	2K OHM 1 / 16 W 1608 5.00% D	
	R687		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R688		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R689		LG-0RH0752C422	RESISTOR/METAL GLAZED(CHIP)	75 OHM 1 / 16 W 1608 1.00% D	
	R690		LG-0LC0200001B	INDUCTOR/CHIP	HB-1M1608-800JT CERATECH R/TP	
	R705		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R706		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R707		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R710		NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
	R711		NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
	R712		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R713		NRSA63J-562X	MG RESISTOR	5.6K OHM 1 / 16 W 1608 5.00% D	
	R715		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R716		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R717		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R718		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R7M1		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R7M2		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R7M4		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R7M5		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R7S1		NRSA63J-223X	MG RESISTOR	22K OHM 1 / 16 W 1608 5.00% D	A
	R801		LG-0RH3304C622	RESISTOR/METAL GLAZED(CHIP)	3.3M OHM 1 / 16 W 1608 5.00% D	
	R802		LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	
	R803		LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
	R804		LG-0RH3902C622	RESISTOR/METAL GLAZED(CHIP)	39K OHM 1 / 16 W 1608 5.00% D	
	R805		LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
	R806		LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	
	R807		NRSA63J-471X	MG RESISTOR	470 OHM 1 / 16 W 1608 5.00% D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R808		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R809		LG-0RH1802C622	RESISTOR/METAL GLAZED(CHIP)	18K OHM 1 / 16 W 1608 5.00% D	
	R810		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R811		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R812		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R821		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R822		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R823		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R824		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R825		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R826		NRSA63J-222X	MG RESISTOR	2.2K OHM 1 / 16 W 1608 5.00% D	
	R834		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R835		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R836		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R837		NRSA63J-104X	MG RESISTOR	100K OHM 1 / 16 W 1608 5.00% D	
	R842		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R850		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R851		LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R852		NRSA63J-822X	MG RESISTOR	8.2K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R853		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R854		LG-0RH3302C622	RESISTOR/METAL GLAZED(CHIP)	33K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R855		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R856		NRSA63J-822X	MG RESISTOR	8.2K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R857		NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R858		NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R859		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	R863		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R864		NRSA63J-101X	MG RESISTOR	100 OHM 1 / 16 W 1608 5.00% D	
	R867		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R868		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R875		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R876		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R881		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R882		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R891		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R892		NRSA63J-332X	MG RESISTOR	3.3K OHM 1 / 16 W 1608 5.00% D	
	R893		NRSA63J-472X	MG RESISTOR	4.7K OHM 1 / 16 W 1608 5.00% D	
	R901		NRSA63J-123X	MG RESISTOR	12K OHM 1 / 16 W 1608 5.00% D	
	R902		NRSA63J-103X	MG RESISTOR	10K OHM 1 / 16 W 1608 5.00% D	
	R903		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R904		NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
	R905		NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	R906		NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
	R907		NRSA63J-561X	MG RESISTOR	560 OHM 1 / 16 W 1608 5.00% D	
	R909		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R910		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R913		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R914		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R919		LG-0RH0682C622	RESISTOR/METAL GLAZED(CHIP)	68 OHM 1 / 16 W 1608 5.00% D	
	R920		LG-0RH2700C622	RESISTOR/METAL GLAZED(CHIP)	270 OHM 1 / 16 W 1608 5.00% D	
	R921		LG-0RH2701C622	RESISTOR/METAL GLAZED(CHIP)	2.7K OHM 1 / 16 W 1608 5.00% D	
	R933		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R934		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R950		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R951		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R952		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R953		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R954		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R956		NRSA63J-221X	MG RESISTOR	220 OHM 1 / 16 W 1608 5.00% D	
	R963		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R967		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R970		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R973		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R974		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R975		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R984		LG-0RH1500C422	RESISTOR/METAL GLAZED(CHIP)	150 OHM 1 / 16 W 1608 1.00% D	
	R985		LG-0RH1500C422	RESISTOR/METAL GLAZED(CHIP)	150 OHM 1 / 16 W 1608 1.00% D	
	R986		NRSA63J-750X	MG RESISTOR	75 OHM 1 / 16 W 1608 5.00% D	
	R998		LG-0RH8200C622	RESISTOR/METAL GLAZED(CHIP)	820 OHM 1 / 16 W 1608 5.00% D	
	R999		NRSA63J-102X	MG RESISTOR	1K OHM 1 / 16 W 1608 5.00% D	
	R9A1		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	R9A2		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	L202		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L205		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L301		LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
	L303		LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
	L304		LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
	L305		LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
	L307		LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
	L308		LG-0LR0392K035	INDUCTOR RADIAL LEAD	39M K 6X6 L5 TP	
	L3S1		LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	A
	L503		LG-0LR1000J0N5	INDUCTOR/RADIAL LEAD	100UH 5% TP 3X5 TR5	
	L504		LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
	L505		LG-0LR0122K035	INDUCTOR RADIAL LEAD	12M K 6X6 L5 TP	

MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	L5F1		LG-0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
	L5F2		LG-0LA1000K018	INDUCTOR AXIAL LEAD	100M K 2.3X3.4 L5 TP	
	L5G2		LG-0LR4700K035	INDUCTOR RADIAL LEAD	470M K 6X6 L5 TP	
	L5V1		LG-0LR0102J0N5	INDUCTOR/RADIAL LEAD	10UH 5% TP 3X5 TR5 -	
	L601		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L602		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L603		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L604		LG-6200RJC002A	FILTER(CIRC)/EMC	HB-1S1608-300 CERATECH TP	
	L605		LG-0LC11608D01	INDUCTOR/CHIP	HB-1M1608-121JT CERATECH R/TP	
	L607		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L608		LG-0LCCE00030A	INDUCTOR/CHIP	HB-1T1608-301JT CERATECH R/TP	
	L609		LG-6200RJC002A	FILTER(CIRC)/EMC	HB-1S1608-300 CERATECH TP	
	L610		LG-6200RJC003A	FILTER(CIRC)/EMC	HB-1S1608-121 CERATECH TP	
	L611		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L612		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L613		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L615		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L616		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L617		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L618		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L619		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L620		LG-0LCCE00041A	INDUCTOR/CHIP	HB_1M1608_301JT CERATECH R/TP	
	L621		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L623		LG-0RH0562C422	RESISTOR/METAL GLAZED(CHIP)	56 OHM 1 / 16 W 1608 1.00% D	
	L701		LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
	L702		LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	
	L704		LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	
	L705		LG-0LR0102K035	INDUCTOR RADIAL LEAD	10M K 6X6 L5 TP	
	L801		LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
	L802		LG-0LR1000K035	INDUCTOR/RADIAL LEAD	100UH 10% TP 6 X 6 TR5 -	
	L901		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L902		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L903		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L904		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L905		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L906		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L907		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L908		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L909		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L910		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L916		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L917		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	

⚠	Symbol No.		Part No.	Part Name	Description	Local
	L918		LG-0LCCE00004E	INDUCTOR/CHIP	FI-C2012-103KJT (10UH) CERATEC	
	L923		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L924		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L925		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L926		LG-6200HJC102A	FILTER(CIRC)/EMC	HB-1M2012-102JT CERATECH TP	
	L927		LG-0LCCE00004L	INDUCTOR/CHIP	1UH / CHIP2012 CERATECH R/TP	
	L928		LG-0LCCE00004L	INDUCTOR/CHIP	1UH / CHIP2012 CERATECH R/TP	
	L929		LG-0LCCE00004L	INDUCTOR/CHIP	1UH / CHIP2012 CERATECH R/TP	
	BC91		LG-636-004C	FILTER(CIRC)/EMC	BEAD CORE BFS3550R2FD8/R T/P	
	BC92		LG-636-004C	FILTER(CIRC)/EMC	BEAD CORE BFS3550R2FD8/R T/P	
	CN201		LG-6630R-FB10W	CONNECTOR (CIRC)/FFC/FPC	00-6232-023-006-800 ELCO 23PIN	
	CN202		LG-6630R-FB10K	CONNECTOR (CIRC)/FFC/FPC	00-6232-011-006-800 ELCO 11P 1	
	CN603		LG-561-036A	CONNECTOR (CIRC)/WAFER	MA V 8283-0212 WH ELCO	
	CN605		LG-6630B60E913	CONNECTOR (CIRC)/ BOARD TO BOAR	JE117-D22T-13 JAE EUN 13P 2.54	
	CS501		LG-6600M000026	SWITCH/PUSH	MPU12970MLB0 VCR CST IN S/W MI	
	ES501		LG-4931R-0085C	HOLDER ASSEMBLY	VCR DECK/MECHA END(S)	
	ES502		LG-4931R-0085C	HOLDER ASSEMBLY	VCR DECK/MECHA END(S)	
	J333		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J503		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J602		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J603		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J604		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J701		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	A
	J701		NRSA63J-152X	MG RESISTOR	1.5K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	J702		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	A
	J702		NRSA63J-152X	MG RESISTOR	1.5K OHM 1 / 16 W 1608 5.00% D	B,C,D,E,F
	J802		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J8H1		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J8H2		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J8H3		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J8H4		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J904		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J907		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J908		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	J911		NRSA63J-0R0X	MG RESISTOR	0 OHM 1 / 16 W 1608 5.00% D	
	JK5L1		LG-6612J00053A	JACK/RCA	DPAE-0385 DOOWON RGB 2004 CO	
	JK902		LG-6612J00050F	JACK/RCA	ATT-10dB YUQIU RCA-910A-05-01	
	LD501		LG-4931R-0089C	HOLDER ASSEMBLY	VCR DECK/MECHA END(S)	
	MS501		LG-6600JR3002D	SWITCH/MODE	SSS-51MD-3 SHINMEI 5VDC 1MA D3	
	MS501	or	LG-6600JR3002E	SWITCH/MODE	MMS01080ZMBO MIC 5VDC 1MA D37	
	P3D01		LG-561-234S	CONNECTOR (CIRC)/FFC/FPC	GF120-9S-TS-A LG CABLE 9P 1.25	
	P3D02		LG-6630R5S008J	CONNECTOR(CIRC) /DRAWING	06(11)FM22.5H-BTR-SH (LF)(SN)	

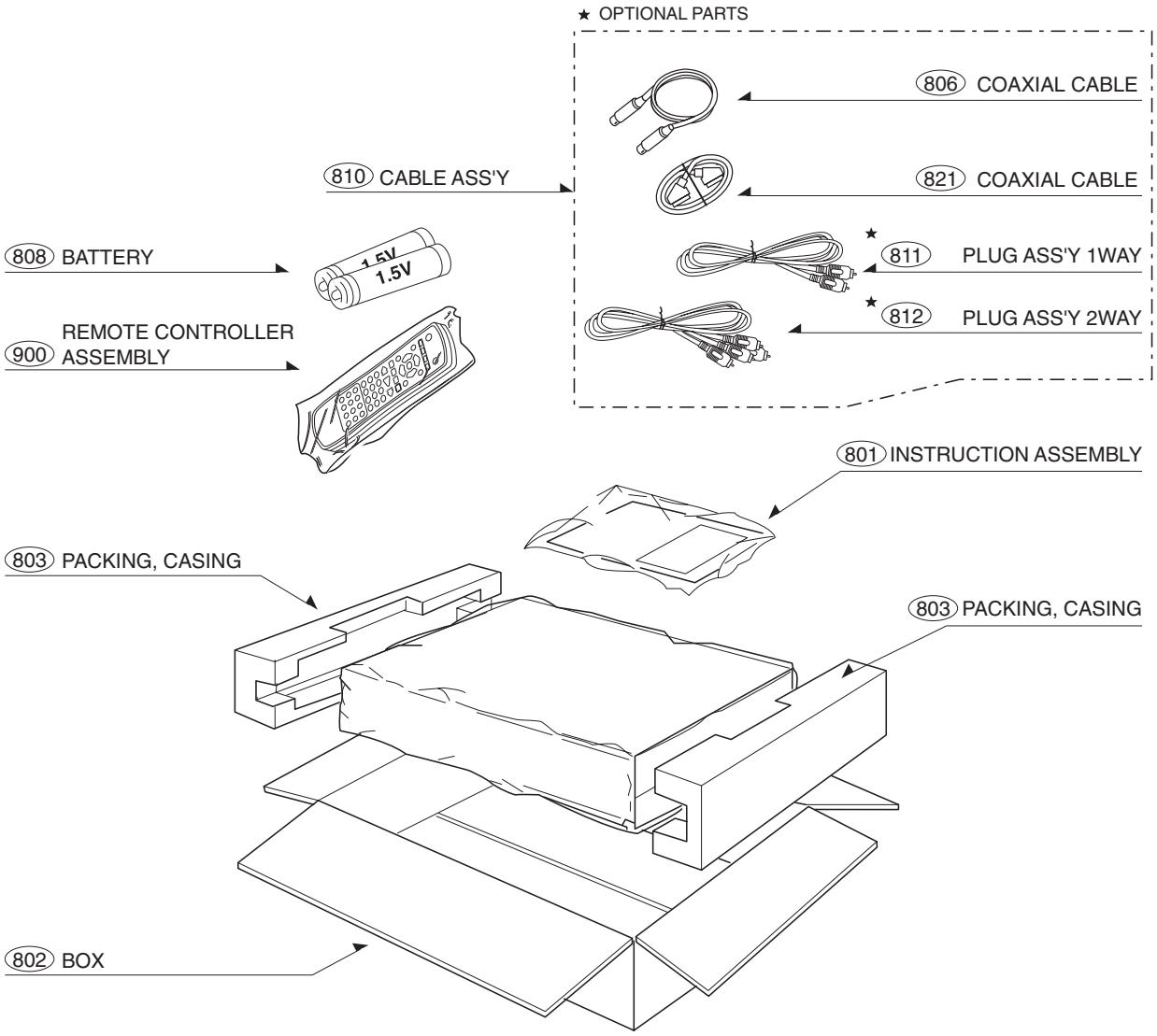
MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

⚠	Symbol No.		Part No.	Part Name	Description	Local
	P3D03		LG-561-251B	CONNECTOR(CIRC) /DRAWING	GB201-2P-TS-B(LGC)	
	PMC01		LG-6630BK01612	CONNECTOR (CIRC)/ BOARD TO BOAR	JE612-A2T-12A JAE EUN 12P 2.0M	
	SC901		LG-6612M00006A	JACK/SCART	DSAM-0341 DOOWON	
	SW501		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW502		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW503		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW504		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	SW505		LG-556-213C	SWITCH/ DETECTOR	THV10912B TACT DC 12 V 5-0 A V	
	TU701		LG-6700PFPL07A	TUNER	TADM-S101D(SECAM/ LGIT) LG INOT	A
	TU701		LG-6700PFPL07F	TUNER	TADM-M101D(GKI/ LGIT) LG INOTEK	B,C,D, E,F
	X301		LG-6212AA2443Z	RESONATOR/ CRYSTAL	HC-49S CSC/KITELCO 4.433619MHZ	
	X501		LG-6212AA2143F	RESONATOR/ CRYSTAL	HC-49U KYUNGIL 14.31818MHZ +/-	
	X502		LG-6202R-DA01B	RESONATOR/ CRYSTAL	CFS-308 CITIZEN 32.768KHZ +/-	
	X601		LG-6212AA2271F	RESONATOR/ CRYSTAL	HC-49S KITELCO 27MHZ +/- 20 PP	
	X751		LG-529-021Q	RESONATOR/ CRYSTAL	49U BUBANG 18432000HZ 30PPM 16	

Packing materials and accessories parts list

The instruction manual to be provided with this product will differ according to the destination.

Block No. M4MM



MODEL	MARK	MODEL	MARK	MODEL	MARK
HR-XV28SEF	A	HR-XV28SER	C	HR-XV28SEY	E
HR-XV28SEK	B	HR-XV28SEU	D	HR-XV28SEZ	F

Packing and accessories

Block No. [M][4][M][M]

⚠	Symbol No.		Part No.	Part Name	Description	Local
	801		LG-3835RV0031Y	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	A
	801		LG-3835RV0031V	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	B
	801		LG-3835RV0031S	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	C
	801		LG-3835RV0031X	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	D
	801		LG-3835RV0031U	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	E
	801		LG-3835RV0031T	INSTRUCTION ASSEMBLY	VCR VJ9033SZ.NA7BJJ JVC GER/DU	F
	802		LG-3890R-C299U	BOX	VJ9033CSZ NA7BJJ SWW3-A	A
	802		LG-3890R-C299V	BOX	VJ9033CSZ NA7BJJ SWW3-A	B
	802		LG-3890R-C299W	BOX	VJ9033CSZ NA7BJJ SWW3-A	C
	802		LG-3890R-C310M	BOX	VJ9033CSZ NA7BJJ SWW3-A	D,E,F
	803		LG-3920R-E168A	PACKING	VCR COMBIV9 130 COMBI	
	806		LG-6850R-CAA2H	CABLE/COAXIAL	RF PAL DOUBLE SHIELD DT_HY_HIT	
	808		-	BATTERY/MANGANESE	AAAM(R03) SEOTONG 1-5 V - 1PA	
	810		LG-6851R-0054B	CABLE ASSEMBLY	PAL RF 1.2M FREE OF CD_PB_HG H	A,B
	810		LG-6851R-0055B	CABLE ASSEMBLY	PAL RF 1.2M FREE OF CD_PB_HG H	C,D,E,F
	811		LG-6850R-PAA2F	CABLE/COAXIAL	1 WAY COAXIAL DT_HY_HIT_SEIL	C,D,E,F
	812		LG-6850R-PBA2H	CABLE/COAXIAL	SCART TO SCART 21 PIN DT_HY_HI	C,D,E,F
	821		LG-6850R-SUA2F	CABLE/COAXIAL	SCART TO SCART 21 PIN DT_HY_HI	A,B
	900		LG-6711R1P081F	REMOTE CONTROLLER ASSEMBLY	N6 VJ9033P1Z NA3GJJ JVC W/SHOW	